THE ASSESSMENT OF COGNITIVE DEVELOPMENT AND WRITING APTITUDE WITHIN LEARNING COMMUNITIES

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Learning communities have emerged as an efficient and effective paradigm for improving undergraduate education, especially for entering freshmen. The academy has become increasingly interested in learning outcomes and student retention, especially as they are related to the assessment of various approaches to educating the whole student. Learning community pedagogy has developed through rigorous research. However, little is known about the impact of this pedagogy upon college students' cognitive development and writing aptitude.

Cognitive development theory has been most significantly influenced by the work of William G. Perry, Jr. Though no theory exists which would address the stages of writing development in university students, many composition theorists suggest a correlation between cognitive development and writing aptitude.

This study measured cognitive development and writing aptitude in learning community students and non-learning community students, matching them for SAT scores, high school grade point averages, gender, and ethnicity. The research questions of interest were: 1) How does participation in a learning community affect students' cognitive development; and 2) How does

participation in a learning community affect students' writing aptitude? The participants were pre- and post-assessed for cognitive development, using the Measure of Intellectual Development (MID). Additionally, participants were pre- and post-assessed for writing aptitude, using a diagnostic essay and exit exam.

Results of this study indicate no statistically significant differences in cognitive development and writing aptitude for learning community students and non-learning community students as measured by the Measure of Intellectual Development (MID) and the diagnostic essay and exit exam. These findings may have been influenced by the small sample size. It is suggested that this research be replicated, ensuring a larger sample size, to determine the efficacy of this pedagogy on these variable sets.

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OVERVIEW AND GOALS OF RESEARCH ON LEARNING COMMUNITIES, COGNITIVE DEVELOPMENT, AND WRITING APTITUDE

Introduction

Theodore J. Marchese, editor of Change, the "magazine of higher learning" published by the American Association of Higher Education, reports that its most requested article is Robert B. Barr and John Tagg's "From Teaching to Learning—A New Paradigm for Undergraduate Education (November / December 1995). In this article, the authors delineate a shift within the academy, from an instructional paradigm to a learning paradigm:

> A paradigm shift is taking hold in American higher education. In its briefest form, the paradigm that has governed our colleges is this: A college is an institution that exists *to provide instruction*. Subtly but profoundly we are shifting to a new paradigm: A college is an institution that exists *to produce learning.* This shift changes everything. It is both needed and wanted. (p. 12)

Educational reform is not new. Indeed, since the National Commission on Excellence in Education published A Nation at Risk (1983), admonishing the American people of the erosion of educational foundations in our society, a myriad of other publications have come forth, offering a variety of tactics to

improve higher education. Collaborative learning, cooperative learning, classroom assessment, classroom research, distance learning—these and others are among pedagogical methods recently introduced in higher education.

Not only is there a renewed concern for educational reform; interest is also being focused on other areas within the academy: assessment, funding, tenure and review, retention, etc. Why is there currently such an interest in educational reform? In their landmark meta-analysis, How College Affects Students: Findings and Insights from Twenty Years of Research, Ernest Pascarella and Patrick Terenzini (1991) describe the expectations American society holds for higher education. These include:

> such lofty goals as transmitting the intellectual heritage of Western civilization; fostering a high level of verbal and mathematical skills; developing an in-depth understanding of social, cultural, and political institutions; facilitating one's ability to think reflectively, analytically, critically, synthetically, and evaluatively; developing one's value structures and moral sensibilities; facilitating personal growth and self-identity; and fostering one's sense of career identity and vocational competence. (p. 1)

Increasingly, the academy has had to respond to a society whose expectations have not been realized. Criticism from within and without higher education has sharpened the necessity for educational reform, and a call for accountability has been issued. Recent publications such as the Thomas B. Fordham Foundation's A Nation Still at Risk (1998), Ernest Boyer's College: The Undergraduate

Experience in America (1987) and Scholarship Reconsidered: Priorities of the Professoriate (1990), Allan Bloom's Closing of the American Mind (1987), and Lawrence Levine's The Opening of the American Mind (1996) each offer compelling commentary regarding the teaching and learning experience within higher education.

Additionally, recent publications in higher education suggest a need to emphasize student learning within the context of educating the "whole" student; among these are Alexander Astin's voluminous publications regarding the "impact" of college which propound education as "talent development" (1985, 1991, 1993); Arthur Chickering's "seven vectors" of student development (1969, 1993); George Kuh's "involving colleges" (1991); and William Perry's schemes of intellectual and ethical development (1970, 1981, 1999).

Learning Communities

One pedagogical method that has emerged as an efficient and effective paradigm for improving undergraduate education, especially for entering freshmen, is the resurgence of learning communities within the academy. Learning community pedagogy was influenced by the educational philosopher, John Dewey, and can be traced back to the early curricular reforms of Alexander Meiklejohn at the University of Wisconsin and is seen again in the work of Joseph Tussman at the University of California at Berkeley. Research suggests that this paradigm for learning has the ability to improve student learning and development, as well as enhance retention and overall college satisfaction (Astin, 1993; Tinto, 1993; Heller, 1998).

Student Development and Cognitive Development Theory

Student development theory is comprised of various lenses through which university students may be viewed; though many diverse student development theories exist, Pascarella and Terenzini (1991) suggest four broad categories: psychosocial theories (among these are Erikson and Chickering), cognitive theories (for ex., Kohlberg and Perry), typology theories (among these are Kolb, Myers-Briggs, Keirsey, etc.), and person-environment interaction theories (for ex., Astin) (p. 15-61). Of these various theorists, the work of William G. Perry, Jr. has had a significant influence on the development of and assessment for learning communities (MacGregor, 1987; Shapiro and Levine, 1999).

Writing Aptitude

Most composition teachers are aware of the link between cognitive development and writing, and a few have undertaken the task of actually utilizing Perry's scheme to inform what happens in the classroom (Bliss, 1986; Burnham, 1986; Bizzell, 1984; Krupa, 1982; and Lunsford, 1985). Though composition theories abound, some with phenomenological assumptions founded in cognitive development theory (Flower and Hayes, 1981), a theory that is "capable of describing identifiable stages of writing development *during the college years* eludes us" (Lunsford, p. 150).

Presuming that Perry's scheme is an appropriate method for assessing cognitive development within learning communities (MacGregor, 1987; Shapiro and Levine, 1999), and presuming that Perry's scheme has an application in the

composition classroom (Bliss, 1986; Burnham, 1986; Bizzell, 1984; Krupa, 1982; and Lunsford, 1985), logically one could assume a correlation exists among cognitive development, writing aptitude, and learning community pedagogy.

Rationale for the Study

This study investigated freshman students, over the duration of one semester (fall 2000), who were enrolled in a private, religiously oriented university in the southwestern United States. Because no known study existed which addressed the impact of learning community pedagogy on the two related areas of cognitive development and writing aptitude, this investigation offered a unique contribution to higher education. The shift within the academy from an instructional paradigm to a learning paradigm has encouraged the resurgence of learning community pedagogy, and a limited research base exists which supports a correlation between cognitive development and learning communities (MacGregor, 1987; Shapiro and Levine, 1999). Concurrently, the efficacy of learning community pedagogy in regard to writing aptitude is of interest to those concerned with curricular reform.

Purpose of the Study

The primary research objective of this study was to determine the impact of learning community pedagogy upon two variables, cognitive development and writing aptitude, in college freshmen.

Research Questions and Hypothesis Statements

In order to accomplish the goals of this study, the following research questions guided the inquiry:

R1. How does participation in a learning community affect students' cognitive development?

R2. How does participation in a learning community affect students' writing aptitude?

Two specific hypothesis statements related to R1 and R2 were tested. These hypothesis statements were:

H1. Students enrolled in learning communities were predicted to score statistically higher in cognitive development than students enrolled in non-learning community classes at the end of the semester.

H2. Students enrolled in learning communities were predicted to score statistically higher in writing aptitude than students enrolled in non-learning community classes at the end of the semester.

Significance of the Study

For the last two decades, curricular reform (and the lack thereof) has been at the forefront of issues which concern stakeholders in higher education. An interest in learning communities, one curricular reform strategy, has necessitated methods for the assessment of this pedagogy. This research study, which assessed the efficacy of learning community pedagogy, is significant for three primary reasons.

A principal stakeholder for any curricular reform issue is the faculty. This study will aid those faculty who are interested in strategies which support the shift from an instructional paradigm to a learning paradigm; the collaborative

nature of learning communities suggests that they provide an excellent model for this new approach to teaching and learning.

A second stakeholder concerned with curricular reform issues is the university administration. Tasked with casting vision, maintaining and providing educationally powerful environments, financial responsibility, representing the university's interests in the community, etc., administrators will be interested in educational models which prove to have a positive impact on students but also provide a favorable cost/benefit ratio.

Another stakeholder, and perhaps the most important, is the student population. As the academy makes the shift from providing instruction to producing learning, students will rightly expect to learn more than preceding generations. As the body of knowledge continues to increase at exponential rates, and with it, the specialization of academic fields within a fractured postmodern era, a university degree's worth may be based not so much on what was taught, but more on how well the student has learned how to learn. Because learning community pedagogy offers a positive transition into academic life, this research study will be of value to those students who would consider enrolling in classes within the construct of a learning community.

Definition of Terms

Cognitive Development: in the context of student development theory, "the evolving ways of seeing the world, knowledge and education, values, and oneself" (Perry, 1981, p. 78)

Learning Community:	any one of a variety of curricular structures that link together existing courses, or restructure the curricular material entirely. This enables students to have opportunities for deeper understanding and integration of the material they are learning, and more interaction with one another and their professors as fellow participants in the learning enterprise (Gabelnick, MacGregor, Matthews, and Smith, 1990, p. 19)
Participation:	Self-selected enrollment in learning community courses

Limitations

Several factors limited this study and affected the ability to generalize from these samples to others regarding the conclusions reached. The participants for this study self selected from those enrolled in a private, religiously-oriented university which has a student population of approximately 4,700. Additionally, these participants had an ethnographic representation similar to that of the university at large; approximately 16% of its student body was comprised of African American, Hispanic, and Asian students. The participants were of traditional age for entering college freshmen, approximately 18 or 19 years of age. Aside from these demographic characteristics, it is important to note that the learning communities in this study were comprised of core-curriculum classes, specifically English Composition and Rhetoric, Freshman Seminar, and Bible.

CHAPTER II

REVIEW OF THE LITERATURE

To provide the background for the current research, this literature review focuses on three areas. The first section reviews pertinent research on learning communities, the next section addresses research on student development and cognitive development theory, and the final section examines relevant research on composition and writing aptitude.

Learning Communities

Overview

Much confusion exists regarding the definition of "learning community," and that is most likely due to the casual way the term is applied within the academy. Is a residence hall, an academic department, or an entire campus a "community of learners"? Is a classroom that incorporates collaborative learning a learning community? Does the faculty or the academy at large comprise a learning community? Though each of these examples does indeed connote the concept of community, none meets the strict standards of definition suggested by Gabelnick, MacGregor, Matthews, and Smith (1990):

> Learning communities, as we define them, purposefully restructure the curriculum to link together courses or course work so that students find greater coherence in what they are learning as well as increased intellectual interaction with faculty and fellow students.

> Advocates contend that learning communities can address some of the structural features of the modern university that undermine effective teaching and learning. Built on what is known about effective educational practice, learning communities are also usually associated with collaborative and active approaches to learning, some form of team teaching, and interdisciplinary themes. (p. 5)

Nancy Shapiro and Jodi Levine (1999) add to the ongoing discussion regarding this definition by contributing several basic characteristics they believe are "shared by learning community initiatives" (p. 3). Learning communities organize students and faculty into smaller groups, encourage integration of the curriculum, help students establish academic and social support networks, provide a setting for students to be socialized to the expectations of college, bring faculty together in more meaningful ways, focus faculty and students on learning outcomes, provide a setting for community-based delivery of academic support programs, and offer a critical lens for examining the first-year experience (p. 3).

Though the debate over what is and is not a learning community will no doubt continue within the academy, it is clear that academic leaders now recommend this pedagogical paradigm for improved teaching and learning. Alexander Astin (1985) suggests that learning communities are one approach to amend the isolation many students feel on large campuses. According to Astin, institutions should implement learning environments where such

> communities can be organized along curricular lines, common career interests, avocational interests, residential living areas, and so on. These can be used to build a sense of group identity, cohesiveness, and uniqueness; to encourage continuity and the integration of diverse curricular and co-curricular experiences; and to counteract the isolation that many students feel. (p. 161)

Astin (1993), a proponent of "talent development" as a result of institutional excellence, finds that a crucial factor for the educational development of students is "the degree to which the student is actively engaged or *involved* in the undergraduate experience" (p. 425). He further states the importance of the extent to which the student interacts with peers and faculty (p. 425). Learning community pedagogy allows for extensive interaction with the peer group and faculty.

Chickering and Reisser (1993) admonish the creation of learning environments in which students are able to "know each other relatively well, to accept life experience as a necessary ingredient rather than an irrelevant diversion, and to take into account individual personalities" (p. 419). Once again, learning community pedagogy fosters these relationships among students and faculty.

Tinto (1993) discusses the implementation of learning communities for a variety of student populations, including entering freshmen, at-risk students, and those enrolled in honors programs. He pays particular interest to the outcomes associated with learning communities and student retention, citing the

"spreading recognition of the value of collaborative and cooperative learning for both student learning and retention" (p. 168). Tinto (2000) believes that, by changing the manner in which students experience the curriculum and the way they are taught (shifting from an instructional paradigm to a learning paradigm), learning community pedagogy provides three common educational benefits: shared knowledge, shared knowing, and shared responsibility. According to Tinto (2000), shared knowledge is an outcome of "requiring the students to take courses together and organizing those courses around a theme"; shared knowing is the consequence of the same students being enrolled for each of the classes—they "get to know each other quickly and fairly intimately.… By asking students to construct knowledge together, learning communities seek to involve students both socially and intellectually in ways that promote cognitive development … knowing is enhanced when other voices are part of that learning experience" (p. 4). Shared responsibility refers to the accountability that develops within the community; the students learn in a collaborative way which promotes healthy interdependence among them.

Though much has been written recently regarding the development of learning communities, the concept actually dates back more than 70 years, and a brief review of the origins of this movement is beneficial.

A Historical Review of Learning Communities

Early curricular reform efforts that serve as the genesis for learning community pedagogy can be traced back to Alexander Meiklejohn at the University of Wisconsin and Joseph Tussman at the University of California at

Berkeley. Additionally, John Dewey has been credited with influencing the development of learning communities.

Alexander Meiklejohn

Alexander Meiklejohn (1932) is considered the father of the learning community movement because of his work emphasizing curricular restructuring. For Meiklejohn, the first two years of college are when the student must learn "as his primary lesson, to take care of himself.… The time has come for his taking upon himself the responsibilities of maturity" (p. 9). It is at this time that the institution will "devote itself explicitly to the forming of his character, the general training of his mind, the enriching and directing of his personality" (p. 9). Meiklejohn's "Experimental College" at the University of Wisconsin instituted the first learning community in 1927, "an integrated, full-time, two-year, lower-division program focusing on democracy in fifth-century Athens and nineteenth- and twentieth-century America. Each civilization was studied holistically through a discussion-centered pedagogy involving the 'great books'" (Gabelnick, MacGregor, Matthews, and Smith, p. 11). Meiklejohn's efforts were unusual during a time in which Charles Eliot's elective system at Harvard had established the standard for the academy (Kerr, p. 10).

Joseph Tussman

A former student of Meiklejohn's, Joseph Tussman founded the "Experiment at Berkeley" more than thirty years after Meiklejohn's Experimental College. Tussman believed a bifurcation existed within the academy as the university existed for the pursuit of knowledge and multiplicity, but that its

organization as colleges mandated its specialization (Gabelnick, MacGregor, Matthews, and Smith, p. 13). His solution to this tension was to rethink lower-division general education. He abolished "courses as the basic curricular planning units and [viewed] the lower–division curriculum as a 'program' rather than a collection of courses" (Gabelnick, MacGregor, Matthews, and Smith, p. 13). Tussman's program stressed "the importance of an emergent creative process of constructing the curriculum"; the faculty teams were called to think in new ways and to interact with one another and with their students (Gabelnick, MacGregor, Matthews, and Smith, p. 14).

Tussman's influence can be seen in the origins of The Evergreen State College in Olympia, Washington; the college was founded with a curriculum based on an coordinated interdisciplinary program. Shapiro and Levine (1999) report that, in the first year, "programs included Political Ecology, Contemporary American Minorities, and Environmental Design" (p. 19). Evergreen currently serves as a model for learning community initiatives in institutions of higher learning throughout the United States.

John Dewey

John Dewey's influence on educational reform is vast; he believed in lifelong learning, was committed to learning by doing, and suggested that education is a vehicle for responsible citizenship and political morality. He believed education to be "a purposeful, student-centered social process that required a close relationship between teacher and student. The learning environment should be structured to apply cooperative and collaborative

approaches to learning that emphasized learning and not teachers" (Shapiro and Levine, p. 17). Dewey's philosophy suggests that education is a process where learning is not compartmentalized within a single discipline; instead, the process is generalized across disciplinary boundaries.

The Structure of Learning Communities

Though various structures of learning communities exist, most of these curricular reform initiatives can be categorized into one of four approaches: paired or clustered courses, cohorts in large courses or FIGS (freshmen interest groups), team-taught programs, and residence-based learning communities (Shapiro and Levine, p. 22).

Paired or Clustered Courses

The simplest learning community to create is a paired-course learning community. Typically enrolling 20 or 30 students in two courses, it is offered through block scheduling. Often, one of the two courses is a basic composition or communications course, or one of the two paired courses is a freshman seminar course, a for-credit course designed to assist in student transition to college (Shapiro and Levine, p. 22-23). This type of course, which itself is a "curricular innovation designed to connect students more intentionally to the academic and social spheres of campus life" (Barefoot, Fidler, Gardner, Moore, and Roberts, 1999, p. 77), works well as part of the linked courses within a learning community. Additionally, thematic titles alert students and faculty to the interdisciplinary nature of learning communities:

> Even in a simple paired-course model, individual communities can draw energy from interdisciplinary, thematic titles. Themes give students and faculty a head start in building connections between the two courses. For example, students at Delta College can enroll in "The Role of Control," a learning community linking college composition and general psychology. (Shapiro and Levine, p. 24)

Expanding on the paired model, the clustered approach to learning communities offers three or four classes. As in the paired-course model, one course within the cluster is often a composition or communications course.

Goldblatt, Zervos, and Bright (2000) found that having a writing class as an anchor course does influence the outcome of the learning community. Citing class size, frequency of teacher-student conferences, and the level of trust that usually develops due to the reading and critiquing of assignments, they believe that this type of course is ideal for a learning community; the authors suggest that writing courses may "serve as *de facto* homerooms for learning communities" (p. 20).

Freshmen Interest Groups (FIGs)

Freshmen Interest Groups (FIGs) are designed to give entering freshmen an immediate support system and are particularly appropriate in large university settings (Gabelnick, MacGregor, Matthews, and Smith, p. 25). Linking courses around topics targeted towards "undecided" majors, a cohort

> of approximately twenty-five students travels together through their first semester. Typically, an upper-division student serves as a

> peer mentor and coordinates FIG activities, which might include integrative seminars, study groups, or sessions designed to help students learn about the campus. (Brower and Dettinger, p. 19)

Themes might include pre-law, journalism-communication, art and architecture, and pre-health sciences (Gabelnick, MacGregor, Matthews, and Smith, p. 25).

Team-Taught Programs

The most complex in terms of faculty role and curricular integration, team-taught programs, sometimes called coordinated studies programs, enroll students around an interdisciplinary theme; typically, the students' schedules are constructed entirely of learning community courses (Shapiro and Levine, p. 33).

Faculty are heavily invested in team-taught programs, participating in the development of community themes, curriculum planning, and instruction. Class scheduling has flexibility, as all teachers and students participate full time in the learning community. At George Mason University's New Century College, this model is flourishing:

> Each course is six or seven weeks long, constitutes students' entire schedules, and meets for full days, Monday through Thursday. The first course, "Community of Learners," explores interdisciplinary issues in education, philosophy, and intellectual development, with an emphasis on writing and computer skills. (Shapiro and Levine, p. 34)

Other courses in George Mason University's New Century College are "The Natural World," which focuses on math, science, and communication, "The

Socially Constructed World," which explores the humanities, social sciences, and fine arts, and "Self as Citizen," which stresses the relationship between the individual and society using perspectives from government, philosophy, and literature (Shapiro and Levine, p. 34). The university also offers a variety of out-of-class opportunities, including various team-building activities.

Residence-Based Programs

Perhaps the most intensive of the learning community models, residence-based programs strive to integrate living and academic environments. In this model, academic programming and services are intentionally placed within the residence halls, allowing greater interaction between faculty and students. Shapiro and Levine (1999) describe residence-based programs as "the most radical" (p. 37) of learning community models, as they are designed to integrate diverse curricular and co-curricular experiences for students and faculty. "Powerful Partnerships: A Shared Responsibility for Learning" (1998), a joint report by the American Association for Higher Education, the American College Personnel Association, and the National Association of Student Personnel Administrators, describes a successful residential learning community:

> University of Maryland, College Park offers the College Park Scholars program, a two-year living/learning opportunity for freshmen and sophomores. Students reside and attend most of their classes within residence hall communities. Residence life staff, faculty, and other program staff offices are in the halls. Student scholars live on floors corresponding to thematically linked

> academic programs … [which] deliberately connect what the students learn in the classroom to the larger world through weekly colloquia, discussion groups, and field trips dealing with related issues. (p. 4)

Recruitment and retention have improved, and the residential learning community "has provided an enriched learning experience and a more personalized and human scale to campus life" (p. 4). Additionally, interaction between students and faculty is enhanced because professors' offices are in the residence hall.

Though typifying learning community structures into the above four categories is useful, Brower and Dettinger (1998) propose a comprehensive model of learning communities (see Figure 1); they suggest a pyramid which is comprised of academic, social, and physical components (p. 17).

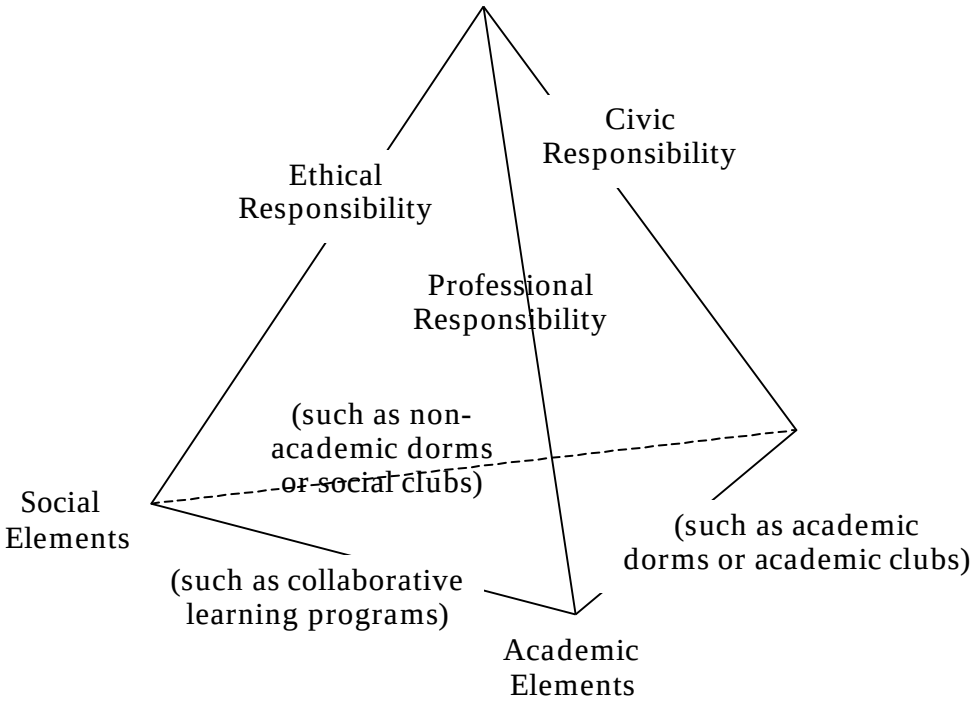

Figure 1. Learning Community Pyramid. (p. 17)

In attempting to "truly capture the multidimensional nature" (p. 17) of learning communities, Brower and Dettinger (1998) present a three-dimensional figure which graphically demonstrates the interaction of the academic, social, and physical components within a learning community, allowing for the facilitation of the development of professional, ethical, and civic responsibilities in students.

Like Shapiro and Levine (1999), Brower and Dettinger (1998) believe that certain characteristics are germane and should be common among all learning communities. These include a sense of group identity, facilities that afford transformative learning activities and a supportive learning environment, seamless experiences that integrate social and academic life, a connection among disciplines, a context for the development of complex thinking skills, and continual evaluation of both the process and outcomes (p. 20-21).

The Washington Center for Improving the Quality of Undergraduate Education was founded in 1985 at The Evergreen State College in Olympia, Washington; its emphasis focuses on "low-cost, high-yield approaches to educational reform, emphasizing better utilization and sharing of existing resources through collaboration among member institutions" (Washington Center News, Spring 2000, p.40). In 1996, the Center received a three-year grant from the U.S. Department of Education's Fund for the Improvement of Post-Secondary Education (FIPSE) which allowed the establishment of the Learning Communities Dissemination Project. The objectives of this initiative were to:

1. Provide support to the participating campuses as they developed, strengthened and evaluated their learning community programs;
2. Disseminate information about the learning community initiatives on these campuses to a national audience; and
3. Feature the experience and knowledge gained by participating institutions at a national learning communities conference. (Washington Center News, Spring 2000, p. 2)

The Washington Center remains the nationally recognized leader regarding learning communities initiatives and recently coordinated with the American Association Higher Education and the American Association of Colleges and Universities for a national conference, "Learning Communities: Strategies for Strengthening Connections, Competence, and Commitments"; more than 300 academic leaders attended this event, representing learning community efforts at all stages of development on their campuses. The impetus and motivation for academic renewal through this pedagogy remains strong.

Barbara Leigh Smith (2001), provost of The Evergreen State College, believes many factors have contributed to the resurgence of learning communities, especially the "broad discussion about teaching and learning" which has occurred in the academy over the last fifteen years (p. 5). Though it is true that many reform efforts often fail, Smith suggests "the learning community effort has become robust precisely because the organizers have been savvy about working with existing organizational structures and adapting them to their needs (p. 7).

Learning communities offer the academy a way to embrace the shift from an instructional paradigm to a learning paradigm; faculty, administrators, and students are interested in the transformative learning which occurs in this curricular reform effort.

Student Development and Cognitive Development Theory: An Application to Learning Communities

Student development theory is comprised of various lenses through which university students may be viewed; though many diverse student development theories exist, Pascarella and Terenzini (1991) suggest four broad categories: psychosocial theories (among these are Erikson and Chickering), cognitive theories (for ex., and Perry), typology theories (among these are Kolb, Myers-Briggs, etc.), and person-environment interaction theories (Astin, etc.) (p. 15-61).

Influential Theorists

Erik Erikson

Much of student development theory had its inception with Erikson's (1968) belief that the ego organizes itself into a coherent personality endowed with a sameness and continuity perceived by others, stating that "ego identity"

> is the awareness of the fact that there is a self-sameness and continuity to the ego's synthesizing methods, the *style of one's individuality,* and that this style coincides with the sameness and continuity of one's *meaning for significant others* in the immediate community. (p. 50)

Erikson, whose original work was based on his experiences with "shellshocked" World War II veterans, believed that people face a series of psychosocial crises that shape personality, and that each crisis focuses on a particular aspect of development involving personality and interaction with others. This concept is delineated in his eight stages of personal and social development: trust vs. mistrust, autonomy vs. doubt, initiative vs. guilt, industry vs. inferiority, identity vs. role confusion, intimacy vs. isolation, generativity vs. self-absorption, and integrity vs. despair (Slavin, p. 51-54). Erikson's work has laid the foundation for adolescent psychosocial theory: "Perhaps no single theoretician has had a greater impact on our perceptions of adolescent personality development than E.H. Erikson" (Adams, Bennion, and Huh, 1989, p. 2).

Whittaker (1969) suggests that identity development is of preeminent importance for college students because of a "possible change in reference groups" (p. 25). Going to college opens up a variety of opportunities and experiences; university students are allowed a

> 'breathing' period for the adjustment to adulthood. Explorations with new roles are provided in an atmosphere of both freedom and protection, thereby allowing the individual to 'try on' a number of different roles of behavior… (p. 25).

If institutions develop structures and environments which facilitate this growth, the opportunity for student identity development is enhanced.

Arthur W. Chickering and Linda Reisser

Chickering and Reisser (1993) use Erikson's theory to organize information concerning college and its effects on students; originally published in Chickering's (1969) influential text, Education and Identity, the authors suggest seven "vectors" of student development which were modified for the 1993 edition:

1. Vector 1: Developing Competence—the progression in the college years is toward increased competence in intellectual areas, in physical and manual skills, and in social and interpersonal relations.
2. Vector 2: Managing Emotions—students wrestle with intense emotions that have biological and social origins.
3. Vector 3: Moving Through Autonomy Toward Interdependence—relationships based on mutual respect and helpfulness are established as the individual confronts the paradox of personal independence and interdependence.
4. Vector 4: Developing Mature Interpersonal Relationships—an increased ability to interact with others emerges, revealing "increased tolerance and respect for those of different backgrounds, habits, values, and appearance, and a shift in the quality of relationships with intimates and close friends."
5. Vector 5: Establishing Identity—a pivotal vector, the concept of identity, according to Chickering, is a "solid sense of self"; issues

confronted at this stage of development are not limited to college students or to this phase of one's life cycle.

6. Vector 6: Developing Purpose—growth requires the development of plans that integrate priorities in recreational and vocational interests, vocational plans and aspirations, and lifestyle choices.
7. Vector 7: Developing Integrity—values taken on authority in an earlier time are reviewed; some are rejected, and those found suitable to the emerging identity are retained, personalized, and internalized. (p. 20-23)

Another substantial contribution to higher education practices by Chickering was the publication of Seven Principles for Good Practice in Undergraduate Education (1987). In this pamphlet, he and Gamson give a brief summary of practices which foster undergraduate student development. Good practice in undergraduate education encourages student-faculty contact, encourages cooperation among students, encourages active learning, gives prompt feedback, emphasizes time on task, communicates high expectations, and respects diverse talents and ways of learning. Chickering's theory has had a "significant impact on the development of proactive and intentional interventions in higher education," and he is thought by many to be "the most highly regarded student development theorist to date" (Evans, Forney, and Guido-DiBrito, p. 52).

William G. Perry, Jr.

The aforementioned psychosocial theorists focus on the content of development; cognitive structural theorists focus on the mental processes which become more complex and sophisticated through gradual, orderly change. Pascarella and Terenzini (1991) suggest that the "psychosocial and cognitive-structural families appear to be complementary" (p. 27)

William Perry (1970, 1981, 1999) and a number of colleagues had been "impressed with the variety of the ways in which the students responded to the relativism which permeates the intellectual and social atmosphere of a pluralistic university" (p. 4). Over a number of years in which they interviewed Harvard undergraduates, their work eventually led to the landmark 1970 publication, Forms of Ethical and Intellectual Development in the College Years: A Scheme. Jean MacGregor (1987) gives a succinct overview of the research that led to this seminal text. The research

> with Harvard men entailed multiple, audio-taped interviews at the end of each year in college. The interviews were long, and open-ended, with no pre-formed questions and only minimal direction from the counselor; this format allowed a wealth of qualitative data to emerge. Extensive analysis of the transcriptions of these interviews enabled Perry and his colleagues to begin to see a sequential pattern of development in students, from a rather simplistic and authority-dependent view of the world and knowledge to a much more complex and "conceptually relativistic"

> one. A pattern also emerged, of making increasingly complex commitments in a relativistic world. (p. 1)

Perry's scheme (see Figure 2) builds on the work of Jean Piaget and Lawrence Kohlberg, whose cognitive-structural theories "seek to describe the process of change, concentrating on the cognitive structures individuals construct in order to give meaning to their worlds" (Pascarella and Terenzini, 1991, p. 27). By mapping "forms [which] characterize the structures which the students explicitly or implicitly impute to the world, especially those structures in which they construe the nature and origins of knowledge, of value, and of responsibility," Perry was able to construct a scheme of intellectual and ethical development (Perry, 1999, p. 1).

Pascarella and Terenzini (1991) cite Perry's regrouping (1981) of the nine schemes into three clusters: Dualism Modified (Positions 1-3), Relativism Discovered (Positions 4-6), and Commitments in Relativism Developed (Positions 7-9). In the early positions (1-3), "students order their worlds in dualistic, dichotomous, and absolute categories. Knowledge is presumed to be absolute and known to authorities. Alternative views or different perspectives on the same phenomenon create discomfort and confusion" (p. 29). In the next cluster, Positions 4-6, "Recognition of multiplicity in the world leads to understanding.… Analytical thinking skills emerge, and students are able to critique their own ideas and those of others" (p. 29). Recognizing that not all positions are equally valid, this "stage … can lead to a resistance to choose among presumably equal alternatives. Subsequent development may be

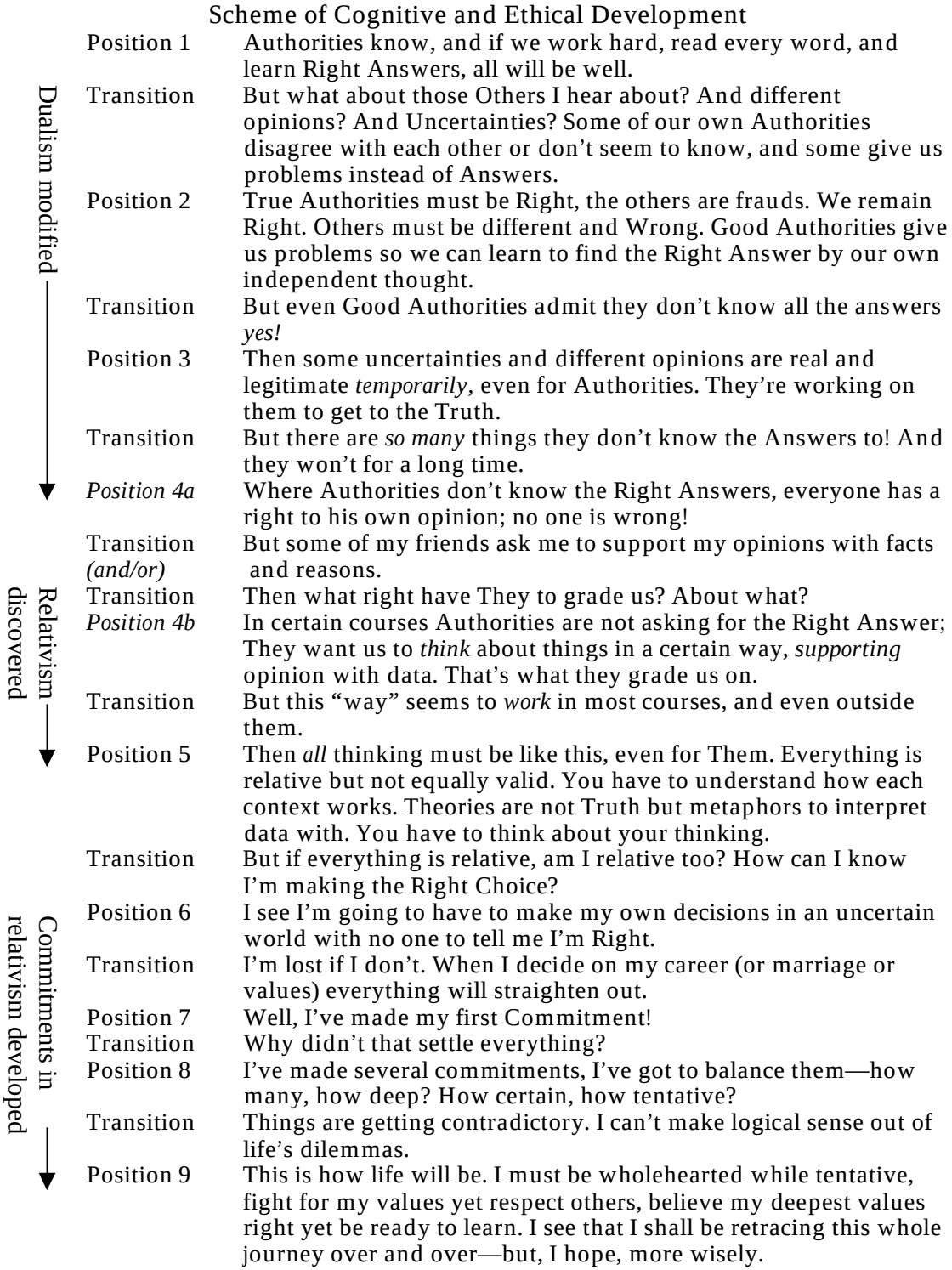

Figure 2. Perry's Scheme. (Perry, 1981, p. 79)

delayed" (p. 29). In the final cluster, Positions 7-9, students have made commitments "to ideas, to values, to behaviors, to other people (for example, in marriage and careers)" (p. 29-30).

Although Perry believed that approximately 75% of the students in his original studies had reached Positions 7 or 8 by their senior year, Pascarella and Terenzini (1991) found subsequent research in which "virtually no students [were found] scoring at these levels" (p. 30).

Over the years, criticism has been offered towards Perry's model; the most often noted reproach addresses the issue of the original sample of students from which the model was formed. Lee Knefelkamp (1999), who was Perry's graduate assistant and who developed (along with Carol Widick) the Measure of Intellectual Development, a frequently used assessment instrument for Perry's scheme, agrees that [although] "the typical Harvard and Radcliffe students of the late 50s and early 60s are not "generalizable to 'the American college student' population for many reasons... it must be remembered that the assessment procedures that have been developed have facilitated the measurement of tens of thousands of students at all types of American colleges and universities" (Perry, 1999, p. xv). Knefelkamp proports the model to be applicable for a wide range of diverse student populations: "Its efficacy remains strong, and there continue to be studies that extend the range of students for whom the general characteristics of intellectual development are accurate and valid" (p. xvi).

Though the Perry scheme has been used for a number of years as a descriptive approach to student development, it has recently begun to be used as

a prescriptive measure as well. According to MacGregor (1987), growing numbers of faculty "are finding the [Perry] scheme a powerful one for understanding differences in student behavior and attitudes, and in student responses to various learning situations" (p. 2).

The assessment of student characteristics via Perry's schemes was originally accomplished through an extensive interview process; subsequently, other procedures were developed; these include the Measure of Intellectual Development, developed by Lee Knefelkamp and Carol Widick, and the Learning Environments Preferences instrument, developed by William S. Moore (Perry, 1999, p. xvi-xvii).

Perry's Scheme is referenced as the "original epistemological positions, based predominantly on men" in Marcia B. Baxter Magolda's study (1992) involving cocurricular influences on university students' intellectual development (p. 204). In her research, which involved tape-recorded and transcribed interviews with 101 participants over a 4-year period, Magolda found three levels of "students' ways of knowing," absolute, transitional, and independent. Absolute knowers believe that knowledge is certain, transitional knowers believe that knowledge is partially certain, and independent knowers believe that knowledge is uncertain (p. 204). These epistemological levels echo Perry's work from three decades earlier.

Cognitive Development and Learning Communities

A growing research base exists which addresses the impact of learning communities in undergraduate education; many assessment approaches incur

the measuring of cognitive development in students. MacGregor (1991) reports that Perry's scheme has been used in a number of studies to examine student intellectual development in learning community programs; she found that "students generally made a significant and unusual leap in intellectual development during their learning community experience… This indicates that the meanings these learning community students are making of their academic environment are more typical of college juniors and seniors" (p. 7).

Avens and Zelley (1990) measured cognitive development in students enrolled in the QUANTA Learning Community, an interdisciplinary learning community at Daytona Beach Community College. Using the Measure of Intellectual Development, their study showed positive change in intellectual development among the students, greater than students in traditionqal college classes (p. 3). The researchers measured the learning community students' scores against normative figures for the Measure of Intellectual Development, and suggested that a design utilizing a control group would be beneficial in future research (p. 4).

Though research addressing cognitive development and the efficacy of learning community pedagogy has been done (MacGregor, 1987), none to date, however, has specifically addressed the two-fold issue of cognitive development and writing aptitude.

Cognitive Development and Writing Aptitude

After the publication of Perry's (1970) text, cognitive development theory began to be integrated into a small number of composition classrooms.

Additionally, composition theorists began to embrace the notion of cognitive development theory and to consider its relationship to the writing process.

Cognitive Development Theory and Composition

In 1985, the Modern Language Association published a compilation of original essays presenting major research and scholarship relative to English composition, Perspectives on Research and Scholarship in Composition. Included in this collection is a chapter, "Cognitive Studies and Teaching Writing"; written by noted textbook author and educator Andrea Lunsford, an accounting of the introduction of cognitive development theory into the composition classroom is presented. According to Lunsford, the work of the cognitive theorists is important to writing teachers because

> all the theories take a constructivist perspective that relates thought, language, and action in creating meaning; and all shift our gaze from the traditional behavioristic, logical positivist one focusing solely on products or "outcomes" to a more complex attention to the processes through which we represent meaning and hence create our individual and social realities and selves. (p. 154)

Though Perry's work seems particularly appropriate for the composition classroom, relatively "few attempts have been made to apply [his] scheme to writing classes" (p. 152). Krupa (1982) believes that writing courses are a "microcosm of college" (p. 19) and provides a rationale for the adoption of Perry's schemes for writing courses:

> Perry's model of development matters to us … as teachers of writing because it shows us how our work connects with the full human growth of our students. I think most of us have long been convinced that something important sometimes happens inside freshmen in our writing classes; what Perry gives us is the shape and features of that something. (p. 20)

Goldberger, Marwine, and Paskus (1978) suggest that a professor use the Perry scheme to "organize his perceptions of students in class and alert him to new ways of responding to the developmental needs of his students" (p. 4). In a study of 29 freshman English students, a significant correlation ($r = .63$) between instructor's ratings of the students and cognitive development scores was found (p. 7). The authors believe that "a student's developmental stage is a critical factor in understanding student functioning both in academic and social settings" (p. 9).

Burnham (1986) believes that "writing is an instrument of learning and personal development" (p. 152); a composition course is incomplete if it does not "provide students experience in the use of writing as a means of intellectual and ethical development" (p. 152). He suggests that Perry's scheme gives insight into why students behave and write as they do, and that teachers must be concerned

> with … students' abilities to assemble details in order to make generalizations and to argue these generalizations through relevant illustrations or examples. According to Perry, these are exactly the cognitive skills students first entering college lack. (p. 156)

Composition researchers and teachers who believe that writing should be used as a means of developing thinking and reasoning skills have been influenced by Perry's insistence that we deal with the whole student during his or her college years. Lunsford (1985) reports that this development of the whole student is "by definition value-laden" (p. 152) and believes we must be aware of the value systems inherent in Perry's scheme. Patricia Bizzell (1984) suggests that Perry

> gives us a perspective on all college teachers as, in effect, rhetors. To a high degree we persuade students to our values through our use of language, in lectures, textbooks, informal discussions, and writing assignments. (p. 454)

Noting that teachers are not "value-neutral conveyors of truth" (p. 454), Bizzell suggests that Perry's most important contribution to writing instruction "may well be the critique he implies of this positivistic view of the teacher's role" (p. 454). She also believes that Perry's scheme can help English teachers to understand why differences occur in student writing, even if the scheme isn't applied rigidly (p. 452).

Bliss (1986) gives a lengthy description of his experiences using Perry's scheme for the teaching of freshman writing at Davidson College. When he first heard the Perry scheme explained, he "realized that it described what [he] had felt but had not been able to describe" (p. 2) regarding students' writing. Wanting to find out whether or not a higher position on the Perry scale and writing ability were related, he observed 18 students who were enrolled in his

composition course. He found that some students did make progress in cognitive development, but since he lacked a control group, he was not able to make valid inferences regarding the effectiveness of his teaching (p. 8).

Kurfiss (1984) believes that students "develop when confronted with the inadequacies of [their] present knowledge structures or beliefs.... In most college environments, dualistic beliefs about goodness, truth, and authority are constantly contradicted" (p. 10). Efforts by educators to encourage this development and foster growth in students may "provoke feelings of anxiety" (p. 12), and therefore an "open, supportive classroom environment is desirable to help students risk accepting the challenges posed to their accustomed way of thinking" (p. 12). A learning community structure would accommodate Kurfiss' desire for this type of environment.

Cognitive Process Writing

Though several educators have utilized cognitive development theory in their instructional design with varying degrees of success (Bizzell, 1984; Bliss, 1986; Burnham, 1986; Hays, 1980; and Krupa, 1982; Kurfiss, 1984), no one "has yet been able to make direct links between the growth stages charted by the cognitive psychologists and the stages in the development of writing ability" (White, p. 57).

Janice Hays (1980) suggests that student writing should reflect Perry's scheme in a similar "identifiable sequence"; if this continuum could be substantiated, it would have "profound implications for the sequences and methods with which we teach writing" (p. 4).

Flower and Hayes (1981) believe that stage models of composition theory (pre-writing, writing, re-writing) focus on the final product (i.e., the final draft) and therefore "offer an inadequate account of the more intimate, moment-by-moment intellectual process of composing" (p. 367). While Lunsford (1985) suggests that no generally agreed on model for cognitive-process writing exists (p. 157), Flower and Hayes' (1981) Structure of the Writing Model (See Figure 3) provides educators with "extremely valuable information on how writers set goals, how they solve problems, and how they represent meaning to themselves" (p. 155).

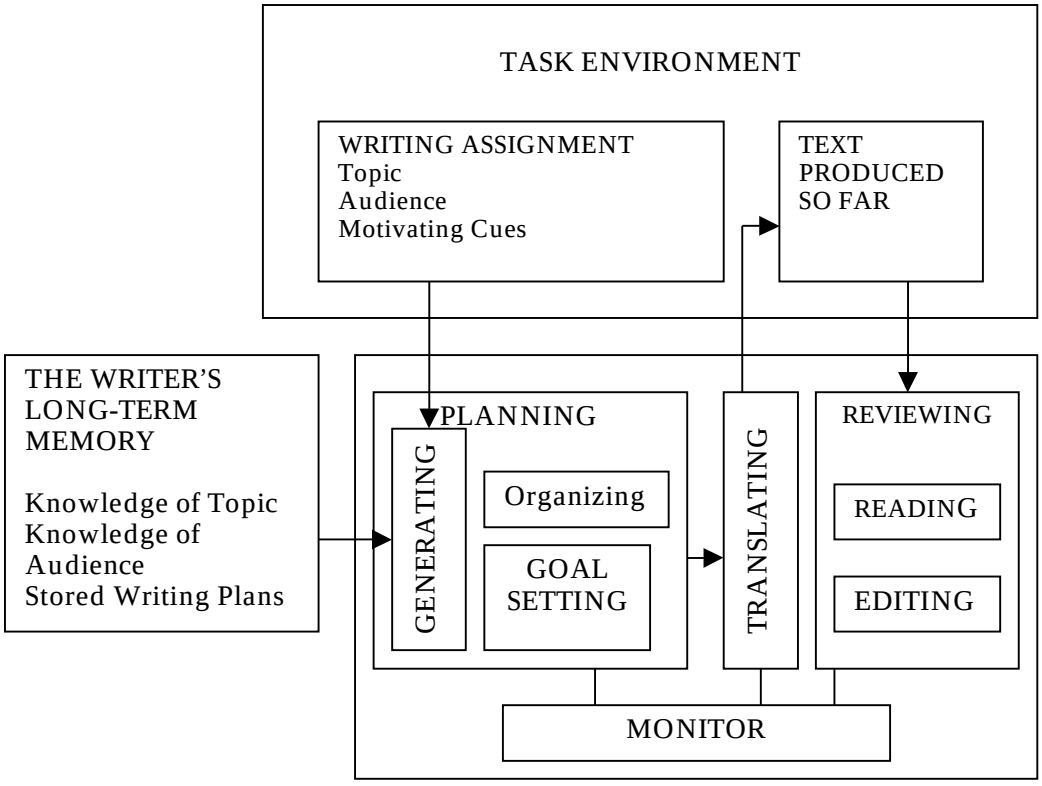

Figure 3. Structure of the Writing Model. (Flower and Hayes, p. 370)

Basing their cognitive process model on their work with protocol analysis over a period of five years, Flower and Hayes' theory is a major departure from the more traditional stage models of writing (prewriting, writing, re-writing). The authors set forth four key points regarding their cognitive process theory of writing:

1. The process of writing is best understood as a set of distinctive thinking processes which writers orchestrate or organize during the act of composing.
2. These processes have a hierarchical, highly embedded organization in which any given process can be embedded within any other.
3. The act of composing itself is a goal-directed thinking process, guided by the writer's own growing network of goals.
4. Writers create their own goals in two key ways: by generating both high-level goals and supporting sub-goals which embody the writer's developing sense of purpose, and then, at times, by changing major goals or even establishing entirely new ones based on what has been learned in the act of writing. (p. 366)

Flower, an English professor, and Hayes, a psychology professor, pioneered the application of protocol analysis in the research of composing processes. By using "thinking aloud protocols," they were able to "capture a detailed record of what is going on in the writer's mind during the act of composing itself" (p. 368). One transcript of an hour-long writing session could amount to 20 pages of protocol text. From this data, Flower and Hayes identified three major elements in the act

of writing, the task environment, the writer's long-term memory, and the writing processes:

> The task environment includes all of those things outside the writer's skin, starting with the rhetorical problem or assignment and eventually including the growing text itself. The second element is the writer's long-term memory in which the writer has stored knowledge, not only of the topic, but of the audience and of various writing plans. The third element in [the] model contains writing processes themselves, specifically the basic processes of Planning, Translating, and reviewing, which are under the control of a Monitor. (p. 369)

Flower and Hayes believe their cognitive process model is "first and foremost a tool for researchers to think with" (p. 375); they contend that the process of writing is not a sequence of stages, but instead a set of optional actions. Though their work has been criticized on the grounds that their "thinking aloud" protocols distort the writing process itself, Flower and Hayes have been credited with identifying a model in which composing is seen as a non-linear, recursive process. The act of composing is "hierarchically organized, a complex network of goals and subgoals, routines and subroutines, which are driven by a writer's purpose, audience, and subject" (Brannon, p. 13). Connors and Glenn (1995) believe that this cognitive-process model is the "best known," and add that "social critiques of the cognitive movement have not resulted in its replacement by any other model" (p. 119).

Synthesis of the Literature

An extensive search of the research literature has been conducted in order to provide a sound theoretical framework for each of the two primary variables for this study, cognitive development and writing aptitude, in college freshmen. The literature suggests that learning communities, as a curricular reform effort, have become a growing national movement. They are strongly present in both public and private colleges and universities, in two year and four year colleges and universities, in research and comprehensive universities and liberal arts colleges. A broad spectrum exists in which to define learning communities, whether the campus design promotes two or three linked courses, a team-taught model, or a residence-based living and learning program.

Learning community pedagogy is supported by student development theory, which suggests that university students are best educated in a context where their development and education is fostered holistically, where knowledge and experience have opportunity to connect across curricular boundaries. Chickering, Astin, Perry, and others believe university life can have a profound impact on the development of students, and this impact is not limited to traditional academic learning.

Perry's experiences with college students, first as an English professor, then counselor, and ultimately as researcher, have allowed a foundation with which to view how cognitive development occurs in traditional students. His seminal text (1999), Forms of Ethical and Intellectual Development in the College

Years: A Scheme, has profound implications for those within the academy charged with teaching and developing students.

In addition to impacting the work of student development professionals, Perry's influence is also evidenced in the pedagogical assumptions of composition theorists and practitioners. A number a studies exist which suggest a link between cognitive development stages and writing aptitude.

The paradigm shift within the academy, from an instructional paradigm in which an institution "exists to provide instruction to a learning paradigm in which an institution exists to produce learning" (Barr and Tagg, p. 12) has allowed many opportunities for curricular reform; learning communities offer students, especially university freshmen, the ability to create connections—between their learning and themselves.

CHAPTER III

RESEARCH DESIGN AND METHODOLOGY

Introduction

Learning communities, as a structure of curricular reform within higher education, have been the subject of investigation during recent years. The purpose of this study was to determine the impact of learning community pedagogy upon two variables, cognitive development and writing aptitude, in college freshmen over the course of one semester, fall 2000.

The design of this study called for the pre- and post-assessment of freshman learning community students and non-learning community students concerning two variables, cognitive development and writing aptitude. This chapter presents the research design and conceptual framework for this study, and develops the rationale for the variables selected for investigation. Information regarding the participants, instrumentation, operationalization of variables, procedures for administration of the instrument, collection of the data, and statistical techniques and procedures used to analyze the data are discussed in this chapter.

Procedures for Collection of Data

Participants

The study was conducted during the fall semester only, and the participants were entering freshmen at Abilene Christian University whose course schedules for included English 111 Composition and Rhetoric, University 100 Freshman Seminar, and Bible 101 The Life and Teachings of Christ. The 40 participants for the experimental group were self-selected by enrolling in two learning community sections of 20 students each. The control group was comprised of 40 students who were also enrolled in English 111, University 100, and Bible 101 and matched for SAT scores, high school grade point averages, gender, and ethnicity. Figure 4 depicts a model of the IdLC learning community.

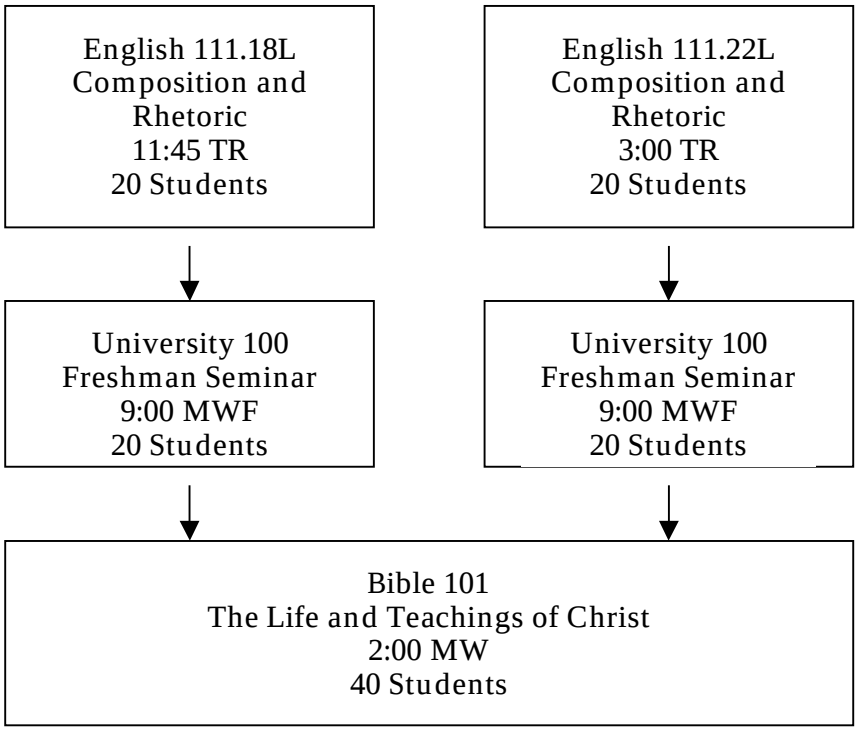

Figure 4. The IdLC Learning Community.

Projected demographic descriptions for the participants were based on 1999 data provided by the Office of Institutional Research and Assessment at Abilene Christian University. As typical of universities with similar campus cultures, more women than men were represented in the student body (58% women, 42% men). More than 80% of the student population was of White ethnicity. Others represented comprised almost 20%: Hispanic, 6.8%; Black, 6.4%; Native American, 0.8%; Asian, 0.4%; other, 0.6%; and non-resident, 4.6%. Of the 924 new students for Fall 1999, 754 (81.6%) were 18 years old, and 361 (48.4%) graduated in the top quartile of their class. As projected, the student population for 2000 was similar to that of Fall 1999.

The use of human subjects for research required an approval by the University of North Texas Institutional Review Board for the Protection of Human Subjects in Research; that permission was granted (Appendix, p. 74). Additionally, permission for this study was granted by the Dean of the College of Arts and Sciences of Abilene Christian University (Appendix, p. 73).

Institutional Culture

Abilene Christian University's mission is to educate students for Christian service and leadership throughout the world. An independent, comprehensive university, it was founded in 1906 in Abilene, Texas, by members of the churches of Christ; the school maintains a strong relationship with its Christian heritage. ACU is a residential university which encourages individual interaction among 5,000 students, teachers, administrators, and staff members.

Instrumentation

Assessment Instruments

The data for this study was collected by scoring pretest and posttest essay responses to the Measure of Intellectual Development (Appendix, p. 75), as well as through the evaluation of in-class essays which were part of the English 111 curriculum.

The Measure of Intellectual Development

Perry's (1970) original data was gathered via extensive interviews of students over a four-year college experience at Harvard University; as the interview assessment protocol was not suitable for this study, the Measure of Intellectual Development (the MID), an essay response instrument, was administered to the participants. The MID measures the first five Perry positions (1970). Created by L. Lee Knefelkamp and Carole Widick (1974), the original instrument (formerly the "Instrument of Educational, Personal, and Vocational Concerns" or the "KneWi") consisted of two different essays and a set of sentence completion stems; it was the "first significant alternative to interviews in assessing the Perry scheme" (Center for the Study of Intellectual Development). Evans, Forney, and Guido-DiBrito (1998) give a thorough description of this assessment instrument:

> The MID consists of three essays that ask students to describe the best class they have taken, the last time they had to make an important decision, and important considerations in making career decisions. These essays are evaluated by two independent raters.

> Each essay is assigned a three-digit rating that reflects a stable Perry position as well as transitional steps. (p. 133-134)

The MID was administered to the study participants during class as a pretest and posttest. The pretest was given during the first two weeks of the semester, allowing for the class schedules to solidify (some students add and/or drop classes during the first few days of school); the posttest was administered during the week prior to finals week at the end of the semester.

Independent scoring of the MID must be done by trained raters provided by the Center for the Study of Intellectual Development in Olympia, Washington. The Center recommended that each essay be scored by two raters who independently score each essay and then arrive at a single, reconciled rating. A fee of $3 per essay rating or $12 per participant ($3 twice for pretest and $3 twice for posttest) was charged by the Center. The Center also recommended reconciled double ratings on only a sub-sample of the total group if funding was limited.

Dr. William S. Moore, of the Center for the Study of Intellectual Development, reports that traditional approaches to psychometric reliability have some "shortcomings with respect to a developmental production-task instrument like the MID," though the Center does offer extensive reliability and validity data (Appendix, p. 76-83); Evans, Forney, and Guido-DiBrito (1998) report that the Measure of Intellectual Development has been found to be more reliably scored than other instruments that assess complex data. Correlations

with interview ratings, with external experts, and interrater reliability data substantiate the validity of the instrument (p. 134).

As the MID is copyrighted material, permission to use the instrument was granted by William Moore; information about the Center, a copy of the contract, and other pertinent information are included in this document (Appendix, p. 84-93).

Writing Aptitude

The Department of English at Abilene Christian University is interested in the writing ability and development of students. Each semester, freshmen who are enrolled in English 111 Composition and Rhetoric are administered a pretest (the diagnostic essay) and a posttest (the exit exam) to assess their ability of written composition (Appendix, p. 95-96). The essays are written in class during the first and last weeks of the semester. Each essay is assigned a score from 1 (Failure, Blocked Communication, Plagiarism-Cheating, Major Errors, Illiteracy, Directions Not Followed, Badly Under-Developed) to 8 (Excellent, Outstanding, Fluent, Thought-Provoking, Original), based on standardized grading criteria rubric (Appendix, p. 97).

For the purpose of this study, two raters scored the diagnostic essays and the exit exams. The essays were anonymously coded and randomly assigned to the raters, who were selected from the English faculty at Abilene Christian University. Members of ACU's English faculty routinely participate in a variety of evaluative assignments, including national Advanced Placement testing and University Interscholastic League.

Procedure

Group Assignment

Information about learning communities was included in a mailing sent to all prospective students, which introduces them to the ACU First-Year Program, The Journey (Appendix, p. 107). Additionally, ACU published an article about learning communities in which this researcher was interviewed (Appendix, p. 108-110). Entering freshmen who desire to be registered in a learning community were assisted with class selection by faculty and professional advisors at Passport, ACU's freshman orientation. Students self-selected into the learning community classes; two sections of 20 students comprised the experimental group. Forty students not enrolled in a learning community but who were taking the same courses comprised the control group. Additionally, the students were matched for SAT scores, grade point averages, gender, and ethnicity. The Office of Institutional Research at ACU assisted in the matching procedure.

Learning Communities

The IdLC learning community was comprised of a block of required courses for entering freshmen, English 111 Composition and Rhetoric, University 100 Freshman Seminar, and Bible 101 The Life and Teachings of Christ. Two learning community sections with 20 students in each section served as the experimental group for this study. An English professor taught both sections of the IdLC learning community. Two University 100 faculty taught the University 100 courses, and one member of the Bible faculty taught Bible 101. Each section

of twenty students had English 111 and University 100 together; both sections (40 students) of Bible 101 met concurrently with one professor.

Non-Learning Community Control Group

The experimental group (learning community students) were matched with a control group (non-learning community students). This control group was comprised of students who were enrolled in the same courses (English 111, University 100, and Bible 101), but the courses were not linked as a learning community. These students were matched with the experimental group for SAT scores, high school grade point averages, gender, and ethnicity. The curriculum in these non-learning community courses followed the same curriculum as that of the learning community courses (number and type of assignments, etc.).

Assessment Periods

The Measure of Intellectual Development (MID) was administered during the first two weeks of the semester and during the week prior to final exams during fall 2000. The diagnostic essay and exit exam were administered during the first and last weeks of the semester. All pretests and posttests were administered during class time.

Independent and Dependent Variables

The two dependent variable sets for this study were the Measure of Intellectual Development (MID) scores and the writing aptitude scores. The MID scores represent the cognitive development level, per Perry's (1970) scheme, of the participants at the onset of the semester and at the close of the semester.

Additionally, a writing sample was scored at the onset of the semester (pretest) and at the close of the semester (posttest).

The two independent variable sets were the groupings of the students into learning community students (experimental application) and non-learning community students (control group) and the pretest and posttest within groups scores. To maximize reliability, learning community students and non-learning community students were matched for SAT scores, high school grade point average, gender and ethnicity.

Statistical Analysis and Predictions

The statistical technique that was used to analyze the data in this research study was the mixed factorial ANOVA. A 2 (learning community students vs. non-learning community students) x 2 (pretest and posttest scores for the Measure of Intellectual Development) factorial ANOVA was conducted to determine if participation in a learning community had any impact on cognitive development scores. In addition, a 2 (learning community students vs. non-learning community students) x 2 (pretest and posttest scores for writing aptitude) factorial ANOVA was conducted to determine if participation in a learning community had any impact on writing aptitude. The computer program, SPSS, was used to enter and analyze the data. A .05 level of significance was established a priori for each of the statistical techniques.

It was predicted that participation in a learning community would have a positive impact on cognitive development in students, and participation in a learning community would have a positive impact on the writing aptitude of

students. Specifically, a significant main effect for the assessment period was expected; both groups should have displayed increased scores on the MID and increased ratings for writing aptitude by the end of the semester. A significant main effect for group assignment (experimental versus control) was expected. Specifically, it was predicted that learning community participants would have higher scores for each of the dependent variables across the assessment periods. And it was predicted that each of these main effects would be qualified by a significant group x assessment period interaction. Specifically, it was predicted that the learning community scores at posttest would be significantly higher than all other group assessments at pretest and posttest.

CHAPTER IV

PRESENTATION OF DATA FINDINGS

Introduction

The purpose of this study was to determine the impact of learning community pedagogy upon two variables, cognitive development and writing aptitude, in college freshmen over the duration of one semester, fall 2000. The findings of the data analysis are presented in this chapter.

The research questions of interest are: 1) how does participation in a learning community affect students' cognitive development; and 2) how does participation in a learning community affect students' writing aptitude.

In a two-way analysis of variance (ANOVA), two independent variables and a single dependent variable are analyzed simultaneously in a single analysis; this procedure is used for determining whether the difference between the mean scores of two or more groups or across repeated measurements on a dependent variable is statistically significant. The advantages of this statistical methodology include efficiency, control over additional variables, and the ability to study the interaction among the independent variables.

The Study Participants

The research design called for a sample size of 80 participants, 40 for the experimental group who self-selected into two learning community sections of 20 each, and 40 for the control group which was to be comprised of non-learning

community students who were also enrolled in English 111, University 100, and Bible 101. English 111 was designated as the "anchor" class, the course which drives the learning community process (this is where the assessments were administered). The first section, English 111.18L, scheduled for Tuesday / Thursday, 11:45 a.m.-1:05 p.m., easily filled to its capacity of 20 students and even allowed one extra student to be enrolled, for a total of 21 participants. However, the second English section, English 111.22L, was scheduled for Tuesday / Thursday, 3:00-4:20 p.m., and only 15 students registered for this class. It is assumed that students desired to be in the section that met earlier but not in the section that met late in the afternoon. Some students did not complete the semester, and some of these students did not complete all the measurements; therefore, the sample size was smaller than anticipated (N=72, 36 learning community students and 36 non-learning community students).

Presentation of Findings for Research Question One

Descriptive statistics for the dependent variable, cognitive development, are broken down by assessment period and class, and are presented in Table 1. As evident, pre- and posttest scores for learning community students and non-learning community students were similar.

The marginal means for class and time are presented in Table 2 and Table 3. Although not statistically significant for this study, a casual observation of the means, when compared to national normative data, reveals that participants enrolled in learning communities in this study scored higher than those in other longitudinal studies regarding learning communities (Appendix, p. 94).

Table 1

Means and Standard Deviations for Cognitive Development of Learning Community Students and Non-Learning Community Students Across Assessment Periods

	Pretest		Posttest	
Class	M	SD	M	SD
Learning Community	2.80	.05	2.90	.05
Non-Learning Community	2.71	.05	2.93	.05

Table 2

Means and Standard Deviations for Cognitive Development of Learning Community Students and Non-Learning Community Students

	Cognitive Development	
Class	M	SD
LC	2.85	.04
Non-LC	2.82	.04

Table 3

Means and Standard Deviations for

Cognitive Development Across Assessment Periods

	Cognitive Development	
Assessment Period	M	SD
Pretest	2.75	.03
Posttest	2.92	.03

Results of the Initial Two-Way Analysis of Variance (ANOVA)

A 2 (learning community students vs. non-learning community students) x 2 (pretest and posttest scores for the Measure of Intellectual Development) factorial ANOVA was conducted to determine if participation in a learning community would have any impact on cognitive development scores. The test statistic for the two-way ANOVA is the *F* ratio, which is the ratio of two mean squares (MS). *F* tests for main effects and interaction are presented in Table 4.

An examination of Table 4 indicates there was no main effect for class; specifically, learning community students did not differ significantly from non-learning community students in scores for the Measure of Intellectual Development (MID). However, there was a main effect for time; scores for both

learning community students and non-learning community students were significantly different for pretest and posttest measures.

Table 4

Summary of Two-Way Analysis of Variance for Cognitive Development in Learning Community Students and Non-Learning Community Students

Source	df	SS	MS	F	p
Time	1	.82	.82	15.05	.00
Class	1	2.65	2.65	.33	.57
Time*Class	1	.11	.11	2.04	.16
Error Within	59	3.2	5.42		
Error Between	59	4.69	7.94		

An *F* test was conducted to test for a Class x Time interaction; this interaction was not significant. It was anticipated that participation in a learning community would have a statistically significant impact on cognitive development in college freshmen. However, I was unable to reject the null hypothesis.

Presentation of Findings for Research Question Two

Descriptive statistics for the dependent variable, writing aptitude, broken down by assessment period and class, are presented in Table 5. As evident, pre- and posttest scores for learning community students and non-learning community students were similar.

Table 5

Means and Standard Deviations for Writing Aptitude of Learning Community Students and Non-Learning Community Students Across Assessment Periods

	Pretest		Posttest	
Class	M	SD	M	SD
Learning Community	10.81	.32	11.36	.38
Non-Learning Community	10.68	.37	10.68	.43

The marginal means for class and time are presented in Table 6 and Table 7.

Table 6

Means and Standard Deviations for Writing Aptitude of Learning Community Students and Non-Learning Community Students

	Writing Aptitude	
Class	M	SD
Learning Community	11.08	.28
Non-Learning Community	10.68	.32

Table 7

Means and Standard Deviations

for Writing Aptitude Across Assessment Periods

	Writing Aptitude	
Assessment Period	M	SD
Pretest	10.74	.24
Posttest	11.02	.29

Results of the Final Two-Way Analysis of Variance (ANOVA)

A 2 (learning community students vs. non-learning community students) x 2 (pretest and posttest scores for the diagnostic and exit essays) factorial ANOVA was conducted to determine if participation in a learning community will have any impact on writing aptitude scores. *F* tests for main effect and interaction are presented in Table 8.

An examination of Table 8 indicates there was no main effect for class; specifically, learning community students did not differ significantly from non-learning community students in scores for writing aptitude (pretest and posttest). In addition, learning community students did not differ significantly from non-learning community students in the main effect for time. An *F* test was conducted to test for a Class x Time interaction; this interaction was not significant. Although it was anticipated that participation in a learning

community would have a statistically significant impact on writing aptitude in college freshmen, I was unable to reject the null hypothesis.

Table 8

Summary of Two-Way Analysis of Variance for Writing Aptitude in Learning Community Students and Non-Learning Community Students

Source	df	SS	MS	F	p
Time	1	2.43	2.43	.73	.40
Class	1	5.16	5.16	.92	.34
Time*Class	1	2.43	2.43	.73	.40
Error Within	62	207.44	3.35		
Error Between	62	348.71	5.62		

In conclusion, I was unable to reject the null hypotheses, based on the results of the data analysis to determine the impact of learning community pedagogy upon two variables, cognitive development and writing aptitude, in college freshmen over the duration of one semester, fall 2000. Several reasons for these findings may exist; perhaps the most important of these for this research is the fact that this study offered the faculty its first experience with learning community pedagogy. While the professors were eager to teach in this new way, the complexities of this instructional model may have proved too taxing, thereby impacting the outcomes of the study.

CHAPTER V

SUMMARY, CONCLUSIONS, AND IMPLICATIONS

Summaries of Chapters I, II, III, and IV

Chapter I summary: A renewed interest in educational reform has permeated the academy, calling for a shift from an instructional paradigm to a learning paradigm. While learning community pedagogy had its origins within the academy in the 1920s, it has emerged in recent years as an efficient and effective methodology for improving undergraduate education, especially for entering freshmen.

Current research on learning communities focuses on a variety of student outcomes (satisfaction, retention, etc.). However, little is known regarding the actual effects of the pedagogy on college freshmen's cognitive development and writing aptitude. Consequently, the purpose of this research study was to examine two dependent variable sets, cognitive development and writing aptitude, in learning community students and non-learning community students.

Two research questions and two hypothesis statements guided the research inquiry:

R1. How does participation in a learning community affect students' cognitive development?

R2. How does participation in a learning community affect students' writing aptitude?

H1. Students enrolled in learning communities are predicted to score statistically higher in cognitive development than students enrolled in non-learning community classes at the end of the semester.

H2. Students enrolled in learning communities are predicted to score statistically higher in writing aptitude than students enrolled in non-learning community classes at the end of the semester.

The research study contributes to the body of knowledge on learning communities because little is known about the impact of learning community pedagogy on cognitive development and no known publication exists which addresses the impact of the pedagogy on writing aptitude.

Several factors limited this study and affect the ability to generalize from these samples to others regarding the conclusions reached. The participants selected for this study were enrolled in a private, religiously-oriented university which has a student population of approximately 4,700. Additionally, these participants had an ethnographic representation similar to that of the university at large; approximately 16% of its student body was comprised of African American, Hispanic, and Asian students. The participants were of traditional age for entering college freshmen, approximately 18 or 19 years of age.

Chapter II summary: In Chapter II, a review of the literature transverses several theoretical boundaries. These boundaries include the literature on learning communities, student development and cognitive development theory, and relevant research on composition theory and writing aptitude. The body of

research was extensively and thoroughly examined for relevance, mixed or contrary findings, and supportive findings.

Chapter III summary: In Chapter III, the research design, methodology, and conceptual framework were presented. The participants for this study were entering freshmen at Abilene Christian University whose course schedules included English 111 Composition and Rhetoric, University 100 Freshman Seminar, and Bible 101 The Life and Teachings of Christ. The participants for the experimental group self-selected by enrolling in two learning community sections of 20 students each. The control group was comprised of 40 students who were also enrolled in English 111 Composition and Rhetoric, University 100 Freshman Seminar, and Bible 101 The Life and Teachings of Christ. Additionally, they were matched for SAT scores, high school grade point averages, gender and ethnicity.

The data for this study were collected by scoring pretest and posttest essay responses to the Measure of Intellectual Development (MID) (Appendix, p. 75), as well as through the evaluation of in-class essays (the diagnostic essay and the exit exam) (Appendix, p. 95-96) which were part of the English 111 curriculum. The statistical technique that was used to analyze the data in this research study was the mixed factorial analysis of variance (ANOVA), a procedure for determining whether the difference between the mean scores of two or more groups or over repeated measurements on a dependent variable is statistically significant.

A 2 (learning community students vs. non-learning community students) x 2 (pretest and posttest scores for the Measure of Intellectual Development) factorial ANOVA was conducted to determine if participation in a learning community would have any impact on cognitive development scores. In addition, a 2 (learning community students vs. non-learning community students) x 2 (pretest and posttest scores for writing aptitude) factorial ANOVA was conducted to determine if participation in a learning community would have any impact on writing aptitude. A .05 level of significance was established a priori for each of the statistical techniques.

Chapter IV summary: In Chapter IV, the data findings were presented. The research questions of interest were 1) how does participation in a learning community affect students' cognitive development; and 2) how does participation in a learning community affect students' writing aptitude. For research question one, there was no significant main effect for class (learning community vs. non-learning community), but there was a main effect for time (pretest vs. posttest). For research question two, there was no significant main effect for class (learning community vs. non-learning community), nor was there a main effect for time (pretest vs. posttest). Therefore, I was unable to reject the null hypotheses.

Conclusions and Discussion

This research study began with two research questions regarding the impact of learning community pedagogy on students' cognitive development

and writing aptitude. Based upon the findings presented in Chapter IV, conclusions for these two questions are presented.

Conclusions for Research Question One

Currently, much of literature about this pedagogical movement focuses on the organization and implementation of learning communities. As this educational reform effort has gained momentum, concern has grown regarding the necessary assessment of learning communities. Some assessment has been accomplished, but most seems to address college students' attitudes towards the pedagogy and retention data (Tinto, 1993, etc.). These studies have impressed student development professionals and administrators. However, faculty members are interested in measurable academic outcomes: do learning community students perform better academically than non-learning community students? The concurrent assessment of cognitive development and writing aptitude within learning community structures is a bold initiative, and it will contribute important information to the academy regarding this pedagogy.

Though no significant data were found to support the hypothesis that students enrolled in learning communities would score statistically higher in cognitive development than students enrolled in non-learning community classes at the end of the fall 2000 semester, it is important to note that learning community students and non-learning community students did show a positive growth in cognitive development; these results are similar to national normative data provided by the Center for the Study of Intellectual Development (Appendix, p. 94).

When the results of this study are compared to other studies regarding cognitive development and learning community students, the scores of the participants are similar (MacGregor, 1987, Avens and Zelley, 1990). As no known publication exists which duplicates the specific design of this study, a direct comparison of the data is impossible. The results cannot be attributed to subject characteristics, as the study was designed to match the participants in each of the groups for SAT scores, high school grade point averages, gender, and ethnicity. Though I was unable to reject the null hypothesis, the trend is in the predicted direction, as students enrolled in learning communities did score higher on cognitive development than students enrolled in non-learning community courses.

Conclusions for Research Question Two

As has been stated, much of literature about this pedagogical movement focuses on the organization and implementation of learning communities. A necessary component of any educational reform initiative is the evaluation of that effort. Though some assessment has been accomplished, no known study exists which addresses the impact of learning community pedagogy on writing aptitude in college freshmen.

Although students enrolled in learning communities were predicted to score statistically higher in writing aptitude at the end of the semester than students enrolled in non-learning community classes, I was unable to reject the null hypothesis. Though learning community students did show a gain over non-learning community students, it is not considered significant for this study.

As this research project is unique, no published study exists for comparison. These results cannot be attributed to subject characteristics, as the study was designed to match the participants in each of the groups for SAT scores, high school grade point averages, gender, and ethnicity.

Discussion

Several reasons exist which may explain the findings of this study. Among these are sample size and time of class, the length of the assessment period, student / teacher rapport, faculty and student attitudes towards research, assumptions regarding learning community pedagogy, the selection of the dependent variables, and the ratings of the Measure of Intellectual Development (MID) and scoring of the writing aptitude pre- and posttests.

Originally, the research design called for a sample size of 80 participants, 40 for the experimental group who self-selected into two learning community sections of 20 each, and 40 for the control group which was to be comprised of students who were also enrolled in English 111, University 100, and Bible 101. English 111 was designated as the "anchor" class, the course which drives the learning community process (this is where the assessments were administered). The first section, English 111.18L, scheduled for Tuesday / Thursday, 11:45 a.m.-1:05 p.m., easily filled to its capacity of 20 students and even allowed one extra student to be enrolled, for a total of 21 participants. However, the second English section, English 111.22L, was scheduled for Tuesday / Thursday, 3:00-4:20 p.m., and only 15 students registered for this class. It is assumed that students desired to be in the class that met earlier but not in the class that met late in the

afternoon. Some students did not complete the semester, and some of these students did not complete all the measurements; therefore, the sample size was smaller than anticipated. This may have adversely affected the power of the study.

Another factor for consideration is the length of the assessment period. The duration of this research project was one academic semester, fall 2000, from late-August to early-December. A longer assessment period may be necessary to determine any significant differences in cognitive development and writing aptitude in college freshmen enrolled in learning communities.

In addition, the rapport of students and teachers may have also influenced the results of this study. All learning community students in this study were enrolled in English sections taught by the same instructor. Though this professor is an experienced teacher of composition and rhetoric, this was her first encounter with learning community pedagogy. She commented several times throughout the semester about the difficulties she experienced in the classroom because of the social connections the students had made; on occasion, she mentioned that teaching in the traditional classroom was less “challenging” (Appendix, p. 98). It is interesting to note, however, that this same professor has made a commitment to teach the identical learning community classes for fall 2001 and is eager for this experience. Because the non-learning community students were matched from the larger pool of all students enrolled in English 111, University 100, and Bible 101, they were enrolled in approximately 20

sections of English 111, taught by eleven faculty members, each with varying pedagogical assumptions and practices.

One unanticipated issue arose during the study concerning faculty and student attitudes towards the research. Some faculty members chose to not participate because the administration of "extra" assignments (the administration of the Measure of Intellectual Development pre- and posttests) did not fit into their syllabi; others may have reluctantly participated in the study, and still others seemed to embrace the project with zeal. Also unanticipated were student attitudes towards the research. Though most students willingly participated, a few were unwilling. The Office of Institutional Research at Abilene Christian University conducts several annual surveys, including the Noel-Levitz College Student Inventory and Student Satisfaction Inventory and the Cooperative Institutional Research Program Freshman Survey. It may be that students, as a whole, are growing weary of participation in these data collection exercises.

In addition to theses issues, assumptions about learning community pedagogy may have affected the results of this study. Learning communities have been part of the core curriculum offerings at Abilene Christian University for the last four years, and the IdLC learning community (the "identity" learning community, not associated with a specific major and marketed to all entering freshmen) has been in place for only three years. Students, parents, admissions counselors, academic advisors, and faculty may have varying assumptions regarding learning community pedagogy. Perceptions regarding the functions

and curricular requirements of learning communities may be skewed (some parents have assumed this pedagogy was, by nature, remedial), thereby influencing those who would self-select into the learning community classes.

Another reason for the lack of significant data supporting the hypotheses may be the selections of dependent variables for this study. It may be that learning community students would have shown statistical significance in other outcome variables more traditionally associated with this pedagogy, such as psychological adjustment and social engagement.

One final reason for the lack of statistical significance in the findings of this study may be the reliability of the ratings of the Measure of Intellectual Development and the scoring of the writing aptitude pre- and posttests. To assure reliability of ratings for the MID, it is recommended that a 25% subsample of the essays be randomly selected for a second, and in some instances, a third reconciled rating. The Center for the Study of Intellectual Development (CSID) recommends that two figures be computed for interrater reliability, absolute agreement and within 1/3 position agreement (Appendix, p. 88-93). The CSID rater standard for certification is 90%; for this study, the reliability of ratings is 89% (53% absolute agreement and 36% within 1/3 position agreement). This may have impacted the results of the study. For the scoring of writing aptitude, the Department of English at Abilene Christian University assigned a score to each essay based on a standardized grading criteria rubric (Appendix, p. 97). To ensure impartiality, the pretest (diagnostic essay) (Appendix, p. 95) and posttest (exit exam) (Appendix, p. 96) were coded and then randomly assigned to English

111 faculty for scoring. The Director of Composition facilitated a session for the English faculty in which several essays were scored and discussed, so that the scoring of the essays resulted in a normal distribution. Each essay was scored a minimum of two times; if an essay received two scores which differed more than two points, the essay was scored a third time, for a reconciled rating. This process was established more than ten years ago, and the faculty and university are pleased with this method for grading freshman essays. This procedure, like the rating of the MID essays, was subject to human error and may have impacted the results of this study. It is important to note, however, that the scores for writing aptitude are reflective of longitudinal data regarding writing aptitude scores of freshman composition students at Abilene Christian University.

When considering the results of this study, it is important to consider student perspectives regarding their learning community experiences. Students were surprisingly positive regarding this pedagogy, "I cannot imagine not being involved in the learning community" (Appendix, p. 98). In addition to the many positive affective comments, "I thoroughly enjoyed the learning community" (Appendix, p. 99), several posited various learning outcomes they recognized as a result of this experience. One student from section 22 offered these comments:

> The teachers provide the students with a broader curriculum because they can work together to accomplish more things in different classes. I have learned that in a comfortable environment with people I know, which is what the learning community creates, I learn better. (Appendix, p. 102)

Although this pedagogy offers many benefits to students, it does have the potential to be seen as socially limiting. One student communicated concern regarding this negative characteristic of learning community pedagogy:

> The learning community I was involved in gave me insight about college while being closely related to students with similar values, beliefs, and expectations. I enjoyed learning with a small group because I felt more comfortable, but that comfort also made it difficult to meet new people because we were closely involved the learning community. (Appendix, p. 100)

Overall, students reported positively regarding their participation in learning communities. International students and minority students who were enrolled in learning communities agreed: "Not only was the class important in curriculum, and helping me with daily tasks, but also to meet new people. It was a good way to become closer to other freshmen" (Appendix, p. 101).

Implications

The findings of this study, while statistically insignificant, suggest that further research is needed to determine the efficacy of learning community pedagogy on the specific variables of cognitive development and writing aptitude. Additionally, the unique research design, which called for matching learning community students with non-learning community students for SAT scores, high school grade point averages, gender and ethnicity, could be utilized in a variety of future research projects concerning other specific disciplines.

While the results of this study did not find any statistically significant differences in cognitive development and writing aptitude for learning community students and non-learning community students, these findings may have been influenced by the small sample size. It is suggested that this research be duplicated in the future, ensuring a larger sample size, to determine the efficacy of this pedagogy on these variable sets.

Additionally, learning community assessment should be broadened to impact other academic disciplines. For example, a statistical difference may exist in the scores of learning community students, when compared to non-learning community students, in chemistry, history, and mathematics. The research base for this curricular reform effort is limited, and though learning communities hold great promise for improving the quality of undergraduate education, much remains to be learned.

APPENDIX

Dean Durrington’s letter

Human Subjects

MEASURE OF INTELLECTUAL DEVELOPMENT
ESSAY PROMPTS

ESSAY A

Describe the best course you've experienced in your education. What made it positive for you? Feel free to include as much detail as you think is necessary to give a clear idea of the course. For example, you might want to discuss areas such as the subject matter, class activities (readings, films, etc.), what the teacher was like, the atmosphere of the class, the evaluation procedures--whatever you think was most important in making this experience so positive for you. Please be as specific as possible in your response, describing as completely as you can why the issues you discuss stand out to you as important.

ESSAY AP

Describe the ideal learning experience for you. Please be as specific and concrete as possible about what this experience would include; use as much detail as you think is necessary to present clearly this ideal situation. For example, you might want to discuss what the content or subject matter would be, what the teacher/s would be like, your responsibilities as a student, the evaluation procedures that would be used, and so on. Please explain thoroughly why you feel the specific aspects or components you discuss are "ideal" for you.

ESSAY Q

Look back on your experiences in this course or program and reflect on your discoveries about yourself as a learner. Please be as specific and concrete as possible about what stood out for you about this experience; include as much detail as you think is necessary to provide a clear idea of your learning experience. For example, you might want to discuss any or all of the following topics: the content/subject matter, the kinds of teachers and teaching you experienced, the classroom atmosphere, your role as a student, the evaluation procedures that were used. Through this course or program, what have you learned about yourself as a learner?

The Measure of Intellectual Development: Reliability and Validity Data
The Center for the Study of Intellectual Development in Olympia, WA

RELIABILITY DATA

Traditional approaches to psychometric reliability have some shortcomings with respect to a developmental production-task instrument like the **MID**. The nature of the task makes short-term repeated administration of the task difficult (although one study, Harvey, 1979, does report a test-retest correlation of .87). Split-half procedures are impossible, and beyond 2-4 weeks one cannot be reliably sure whether differences found are due to measurement imprecision or developmental change. What has been done to date, therefore, falls into three categories: 1) correlations with interview ratings (presumably more accurate data because of its richness and quantity); 2) correlations with expert raters (outside raters with more extensive experience); and 3) interrater reliability data of various kinds. In the first group, Slepitza (1976) and Wertheimer (1976) both report **MID** correlations with interviews in the .70s (.74 and .77, respectively). For the second, Mentkowski (1981) and Allen (1982) indicate absolute agreements with an expert rater (Lee Knefelkamp in both cases) of .45 and .53 (average across three domains), while their respective dominant position correlations are .76 and .80.

In terms of interrater reliability, from May, 1984 through May, 1986, over 1244 essays, CADI raters had an absolute agreement percentage of 51.2%; the percentage of ratings within 1/3 position was 93.6%. An earlier CADI summary indicated similar results: over 1785 essays, the within 1/3 position figure was 90%, with the dominant position agreement 81% and the absolute agreement 54%. Mentkowski (1981) reports similar but slightly lower figures for the Alverno College raters: an absolute agreement of 43%, with a dominant position agreement of 74%. Earlier studies (Meyer, 1977; Slepitza, 1976; Stephenson & Hunt, 1977; Wertheimer, 1976; Widick, 1975) report an average comparable figure of 90% (dominant position). Mentkowski argues that the dominant position agreement figure is the most reasonable interrater criterion for such a complex task, the absolute, or exact, agreement being too stringent. Different raters are frequently likely to emphasize different aspects of a given essay and thus arrive at slightly different ratings; the rating reconciliation process is designed to address this issue. One problem with the dominant position figure, however, is that it obscures some comparisons: a 223/233 split would be considered a "miss" by that computation, but would actually be a reasonably close match between raters. For that reason, at one time CADI reported three different figures: absolute, dominant position, and stable/transition position agreement percentages. Now, for simplicity and because the criterion seems to make the most sense, we use the above-mentioned "within 1/3 position" figure, and as noted earlier, expect to see the level of reliability consistently at 90% or higher.

VALIDITY DATA

The validity of the **MID** has been assessed in a number of different ways. Without other significant Perry scheme measures for comparisons, early studies focused on the instrument's relationship to other related concepts. Widick (1975) reports a .51 correlation with Conceptual Level, another cognitive complexity model (Harvey,Hunt, & Schroder, 1961). Meyer (1977) indicates a .45 correlation between the **MID** and Rest's **DIT** measuring moral judgment; Wertheimer (1980), on the other hand, shows a correlation of only .13 between those two measures, but .30 between the **MID** and Loevinger's ego development instrument (the **Sentence Completion Test**). Because of a strong positive conceptual link implicit in the scheme, several studies examined the relationship of empathy and the **MID** (Bogar, 1981; Mason, 1978; Vieser, 1978), reporting correlations from .13 to .31.

While much more concurrent validity of this type still needs to be done with the instrument, recent work on newer Perry measures has produced some comparisons within the realm of the Perry scheme. Taylor's (1983) initial work on the **MER** used the **MID** for a validation measure, but she reports a relatively low correlation of .13 between the two measures. The administration of the instruments in that study, given their similarities, and the rating differences mentioned earlier may well account for their correlation not being higher. Still, the **MID** / **MER** comparison is important and needs to be examined again. In developing the **Learning Environment Preferences** (**LEP**) (Moore, 1987), I have also used the **MID** as the standard validation measure, and across pilot and final samples found consistent correlations between the two measures in the .30s, averaging .36. This figure is more in line with the correlations researchers generally find among developmental measures, but might be expected to be higher because the **LEP** is derived in large part from the rating criteria for the **MID**. The differences in format and precision of scoring for the two instruments may serve to moderate their correlation.

There are other, less traditional ways of assessing a developmental instrument's psychometric validity. Given the nature of a measure like the **MID**, one would expect it to be sensitive to change in longitudinal studies, particularly studies designed to produce developmental growth (what Rest, 1979, calls **experimental enhancement** studies), and should also reflect expected differences in certain **criterion group** comparisons--e.g., year in college, or age apart from educational level. Conversely, one would hope that a developmental measure would <u>not</u> display any consistent patterns in gender differences. In these two areas the **MID** has performed very well over the years.

In the earliest (and most carefully-controlled experimentally) studies of developmentally designed classes, experimental groups consistently "out-performed" control or quasi-control groups. Knefelkamp (1974) and Widick (1975) report average position movement of .85 for their dualist treatment and .79 for the relativist treatment. In a replication of this study using two control groups, one with a teacher who understood developmental design but taught normally, the other with no knowledge of developmental instruction at all,

Stephenson & Hunt (1977) indicate .85 average position movement for the experimental group, .42 for the first control group, and only .12 for the second control group. With a different course but very similar experimental design, Touchton et al (1978) found average position movements of .59, .39, and .17, respectively, for the three groups. Appendix 2 summarizes a sampling of more recent longitudinal research studies using the **MID**. Despite a relatively crude and global scoring scheme, the instrument clearly seems to be reasonably sensitive to change, even over short periods of time in developmental terms (one semester of college, generally).

Tables 2-5 display some of the criterion group differences and normative data available for the **MID** to date, both for a sampling of specific studies and overall. Both overall and across most of the individual samples, there is a distinct, if unimpressive, upward trend from freshmen to seniors (and beyond, in a couple of instances). The trend lines are occasionally flat from year-to-year, but with the exception of the Air Force Academy sample, the freshmen-to-senior comparison is in the expected direction each time. As the sampling of all-freshmen studies indicates, there is a range of scores across institutions, which may in part account for the progress, or apparent lack of it, in some freshmen-senior comparisons.

The age trends are more mixed, in some respects. The vast majority of the data collected to date with the **MID** has been with traditional-aged (18-21) students; the table of normative data displays the summary for a large pool of these students, indicating a slightly upward, but very flat trend from 18-year-olds to 21-year-olds. The "22+" group mean is basically the same as for the 21 group, but includes such a wide range of ages that it is difficult to interpret. The sampling of age comparisons in Table 4, however, does indicate somewhat stronger upward trends for most of the studies shown. In any case, while it seems that at least with in the traditional-aged population, education level is more of a developmental factor than age per se, Table 5 indicates that for at least one fairly large sample of undergraduates, both dimensions have some independent influence.

The major difficulty with the non-traditional-aged samples, as noted earlier, is the phenomenon of **functional Perry position**, an adaptive response to new situations or learning environments (such as returning to school after a number of years). This response frequently involves "regressing" to position three perspectives--"how to learn"--and it is virtually impossible to distinguish this functional Perry position from one's "true" chronological position. One possible indicator of this phenomenon would be the extent of change on a post-test or follow-up; one expect a more complex learner to move more quickly back to his/her previous level of complexity. Unfortunately, to date not enough of this kind of longitudinal work has been done with older adult students.

Finally, as seen in Tables 1 and 5, the **MID** does not seem to reflect any consistent gender differences, suggesting that there is no inherent gender bias in the instrument or its rating scheme. Recent work (Benack, 1984) has suggested that some women do <u>not</u> seem to fit well into the Perry scheme continuum, and other researchers have described what seems to be a female-voice perspective on

cognitive development (Belenky et al, 1986). It may be, however, that the differences found are a product of significant life domains other than classroom learning and epistemology about knowledge, the focus of the **MID**. For now, the **MID** seems equally functional for both men and women.

SUMMARY AND FUTURE DIRECTIONS

The **Measure of Intellectual Development** (**MID**) continues to be the popular assessment instrument for the Perry scheme of intellectual development and cognitive complexity. It can be used for a variety of different purposes, from basic research in the cognitive complexity of various student groups or sub-populations to formal evaluations of curricular projects or college outcomes efforts. Informally, college faculty can use the instrument to assess the general complexity of their students in a given class, or perhaps even to get a more specific understanding of their students' thinking about the particular discipline or subject area being studied. Moreover, the production format of the measure provides a rich qualitative source of information about student perspectives on learning and skills in writing apart from any Perry analysis of the data.

Future basic research on the **MID** needs to continue to pursue the refinement and extension of the rating criteria as well as examining its relationship to other Perry measures now available, particularly similar production-style tasks like the **Measure of Epistemological Reflection**. It is also important to begin to use instruments like the **MID** to explore possible relationships among different dimensions of individual differences, i.e., developmental stage phenomena vis a vis type or learning style models like the **Myers-Briggs Type Indicator** (Myers & McCaulley, 1985). More cross-cultural work needs to be done, particularly in light of the work done to date (e.g., Van Rossum et al, 1985) around the world which seems to describe conceptions parallel to the Perry scheme. The whole area of developmental assessment remains relatively new, and it is important to continue with fundamental research on the nature and forms of the phenomena being measured, as well as the measurement tasks themselves, at the same time applied research is proceeding using assessment as a tool in evaluation or consultation work. The **MID** is a significant tool in cognitive complexity research, but like all developmental assessment efforts to date, should not be treated as a finished product but as a work-in-progress.

Reference Notes

1. MacGregor, Jean--ongoing longitudinal evaluation study of a variety of innovative curriculum projects in 2-year and 4-year colleges and universities in Washington state. Project sponsored by the Washington Center for the Improvement of Undergraduate Education at the Evergreen State College, Olympia, Washington.

2. Pavelich, Gary--longitudinal evaluation of the EPICS program, a new liberal arts lower-division curriculum for engineering students at the Colorado School of Mines.
3. Friedman, Miriam--study of Israeli first-year medical students. Essay stems and responses were translated, but essays were all still rateable.

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Background/Establishment of the Center

The *Center for Applications of Developmental Instruction (CADI*) was established by L. Lee Knefelkamp and William S. Moore in 1982 as an informal organization for education, research, and services related to the Perry scheme of intellectual and ethical development. In June, 1988, CADI merged with the Perry Network, previously operated by the Institute for the Study of Education in Mathematics (ISEM) in St. Paul, Minnesota. The Center was renamed *the Center for the Study of Intellectual Development (CSID)* to reflect more accurately its broad mission in facilitating quality research on the Perry scheme.

Center Services

The CSID offers three broad areas of service to the higher education community in general and the Perry Network in particular:

- Assessment & research support
- Bibliographic resources
- Consultation (both formal and informal)

Assessment & Research Support

The Center's primary focus is on the assessment of the Perry scheme. Assessment approaches available from the Center cover a range of existing formats in developmental instrumentation: structured interview, production-style essay, and recognition-style preference task. Each approach has particular uses and its own strengths and weaknesses, depending on the nature of the research/assessment being conducted. The instruments are complementary and can thus be used simultaneously if appropriate for a given project.

STRUCTURED INTERVIEWS

In part because of the complexity of the phenomena being studied as well as the tradition of qualitative research in the area, the interview approach remains a major option for assessing the Perry scheme, and arguably the richest source of data on intellectual development. We recommend that interviews be used with a sub-sample on projects

using other Perry instruments, both for the richness of the quotes available from such interviews and for ongoing validation efforts of less extensive assessment methods.

A variety of question formats have been tried over the years, both unstructured and structured; over the years CSID has developed a standardized "Perry Interview" protocol, but is also willing to modify this protocol for projects focusing on specific areas in addition to intellectual development--e.g., faith, diversity, etc.

The difficulty with the interview approach is that it is expensive and time-consuming. Interviews must be scored by trained raters, and the current cost of such rating ranges from $25-$30 per interview protocol, depending on the length. In most cases ratings are done from transcripts (transcription being the other major cost issue with such a project), but we have also successfully rated from videotaped interviews.

ESSAY FORMAT

MEASURE OF INTELLECTUAL DEVELOPMENT

The Measure of Intellectual Development (MID), formerly the "Instrument of Educational, Personal, and Vocational Concerns" or the "KneWi," was created in 1974 by L. Lee Knefelkamp and Carole Widick at the University of Minnesota. The original instrument, consisting of two different essays and a set of sentence completion stems, was the first significant alternative to interviews in assessing the Perry scheme, the MID continues to be the primary research instrument for the Perry scheme.

Over the years, work at the University of Maryland, Alverno College, and the Center has refined and standardized the rating criteria for the instrument, now consisting of a series of separate (and separately rated) essay probes covering a variety of content domains but no sentence stems. The vast bulk of the research work done to date has utilized essays A and AP (post-test alternative form) focusing on general epistemology with respect to learning environments. However, the Center continues to seek and support work on alternative essays addressing different domains, with the second most popular area being essay C (developed by Ron Slepitza and L. Lee Knefelkamp in 1976) on epistemology concerning career issues. Other examples of variant essay topics include women's issues, the role of student leaders, and medical school education.

Like the interview protocol, the MID must be scored by trained raters. For most formal research projects, the procedure strongly recommended is the use of two raters who each independently rate each essay and then arrive at a single, reconciled rating. For less formal projects, or in the case of large-scale studies with budget constraints, other alternatives are possible: single raters only, or reconciled double ratings on only a sub-sample of the total group. In any case, the ratings must be done through the Center or by raters approved by the Center. Current rating costs for the MID are $3.00 per essay protocol for single ratings ($6.00 per respondent for double ratings, using two raters to produce a final reconciled rating, the recommended approach for dissertations and formal

research studies). Further information on the measure, including reliability and validity data, can be found in the instrument manual available from CSID for $10 plus postage.

Because of the complexity of the rating process and the time involved in learning how to rate, we normally recommend that the most cost-effective way of scoring is to use the Center. However, we do also offer a rater-training workshop for institutions with a long-term assessment commitment and an interest in a serious, in-depth understanding of the Perry scheme. In the past, we have conducted this workshop for a variety of institutions and organizations around the country, including the University of Maryland, the Washington Center for the Improvement of Undergraduate Education, the Center for the Study of Higher Education at Memphis State University, and the University of Texas. Please contact CSID if you would like more information about this alternative.

CHECKLIST FORMAT

LEARNING ENVIRONMENT PREFERENCES

The Learning Environment Preferences (LEP) is an objective, recognition-task instrument based on the qualitative research done over the years on the MID. The LEP items were drawn both from the Perry position rating criteria used with the MID and from actual MID student essays available in the CSID data bank. The instrument is patterned after Jim Rest's Defining Issues Test in both format and to some extent scoring. The LEP has been used at a wide variety of institutions and student samples across the nation; at this point we have several thousand responses in our data bank. The current cost of the LEP is $1.00 per instrument, including scoring (50¢ each if collected in conjunction with the MID essay/s). Scoring includes a summary of the two major indices of the instrument as well as a breakdown by Perry position responses; more elaborate analyses can be arranged. Like the MID, an instrument manual is available from CSID for $10.

REFERRALS TO OTHER INSTRUMENTS/ASSESSMENT RESOURCES

CSID also offers information about and referrals to other assessment approaches for the Perry scheme--most notably Marcia Baxter Magolda's Measure of Epistemological Reflection (MER), Suzanne Benack's interview work (the Dimensions of Epistemological Thought), and Joanne Kurfiss' work on informal assessment of instructional design issues--as well as information about work done on other instruments and other related models, including Kitchener and King's Reflective Judgment model.

Bibliographic Resources

Through the Perry Network files, the Center maintains a comprehensive library of work on or related to the Perry scheme. The "Bibliography" is made available only to members of the Perry Network, and a copy service is available to Network members for many of the articles and materials listed in the Bibliography. As noted earlier, the Center also maintains an extensive data bank of both MID essays and LEP instruments that can

be made available to researchers for specified projects. More information about Network resources is available from the Center.

Consultations

CSID offers researchers and educational practitioners both formal and informal consultation. For individual researchers, particularly graduate students, CSID provides at no cost discussions and recommendations about instrumentation, data collection and data analysis procedures and issues. More formally, the Center can do a workshop for institutions interested in designing a developmental outcomes assessment program to supplement the typical content-oriented academic assessment efforts. This workshop focuses on the broad range of student learning outcomes of higher education, across a variety of dimensions, not just the intellectual domain a la the Perry scheme, including a discussion about the instrumentation available as well as general developmental measurement issues. If appropriate and requested, special attention can be given to the issue of using locally-designed vs. standardized measures; there are advantages and disadvantages to both approaches, but in some respects locally-designed measures can provide benefits far beyond the assessment process itself.

The most popular formal consultation available from CSID focuses on the broad teaching/learning implications of the Perry scheme, for individual courses, specific curricular interventions (e.g., freshman seminar courses), and for the curriculum as a whole. The general approach is built on Lee Knefelkamp's "developmental instruction" process model, and can be offered by itself or in conjunction with a more extensive rater training workshop as a way of helping educators understand the scheme and its implications in greater depth. This workshop has been conducted at a variety of institutions over the past few years, most recently the American Association for Higher Education, the Association of American Colleges and Universities, the Association of General and Liberal Studies, Eastern Washington University, Douglas College (Canada), and the University of Washington (for the Washington Center for Undergraduate Education). For more specific information about the workshops, including costs, please contact the Center.

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OVERVIEW DESCRIPTION OF THE
MEASURE OF INTELLECTUAL DEVELOPMENT (MID)

Background/Establishment of the Center

The Center for Applications of Developmental Instruction (CADI) was established by L. Lee Knefelkamp and William S. Moore in 1982 as an informal organization for education, research, and services related to the Perry scheme of intellectual and ethical development. In June, 1988, CADI merged with the Perry Network, previously operated by the Institute for the Study of Education in Mathematics (ISEM) in St. Paul, Minnesota, and was renamed the Center for the Study of Intellectual Development (CSID) to reflect more accurately its broad mission in facilitating quality research on the Perry scheme.

The Center's primary focus is on the assessment of the Perry scheme. Assessment approaches available from the Center cover a range of existing formats in developmental instrumentation: a structured interview, a recognition-style preference task--the Learning Environment Preferences (LEP)--and a production-style essay, the Measure of Intellectual Development (MID). [For more information about the LEP, see the companion overview document on that instrument.] Each approach has particular uses and its own strengths and weaknesses, depending on the nature of the research/assessment being conducted. The instruments are complementary and can thus be used simultaneously if appropriate for a given project. MID essays have been used extensively in assessing student learning and evaluating educational experiences at a wide variety of institutions--community colleges to research universities--all over the country, and to a limited extent internationally (primarily England and Australia). The MID has proven to be a particularly useful general indicator of the learning goals reflected in collaborative learning environments, and has been used widely in evaluating learning communities nationally.

Instrument Format and Administration

The original instrument as designed by L. Lee Knefelkamp and Carole Widick consisted of a combination of essay, situation, and sentence-completion stems exploring three different cognitive domains--educational, personal, and vocational concerns. More

recently, work with the instrument has focused exclusively on issues related to classroom learning. The current standard version of the MID is a single essay, A or AP, focusing either on the student's "best class" or "ideal learning environment." One of the original rationales for the essay format was its consistency with typical classroom assignments and the fact that it could function as a writing sample as well as a Perry measure. While the MID is generally administered in-class, it can also be done on a take-home basis if students are instructed to spend a reasonable amount of time on the task (usually 20-30 minutes). In-class administration can provide a more standardized setting, as on a take-home basis there may be great variations in the amount of time spent writing the essay. Generally, the key to encouraging quality responses is providing sufficient context and rationale for the students that they are encouraged to take the task seriously and respond thoughtfully.

While the MID can be, and has been, used with a wide range of students from high school to graduate school (and faculty), the nature of the measure carries some limitations for its use. Respondents must have a reasonable level of basic writing skills to be able to articulate their cognition, and while one may argue the extent to which writing complexity and cognitive complexity are linked (or overlap), deficiencies in these skills can produce responses which are extremely difficult to rate. Similarly, data from cross-cultural populations (i.e., English as a second language) also needs to be treated with caution. In many cases the language barrier does not seem to be a problem, but it is a potential limitation on the instrument. In at least one instance, the essay stem and responses have been translated and we were able to successfully rate the essays. For the time being, however, the primary appropriate use of the instrument is with English-speaking populations with a reasonable level of basic writing skills.

Rating Procedures, Costs and Issues

The MID is scored by raters who have trained extensively in the general Perry scheme and the specific rating process developed over the years by Knefelkamp (1978) and CSID (Knefelkamp et al, 1982). Because the instrument is designed to assess the part of the Perry scheme that we believe to be primarily cognitive/intellectual in focus, MID ratings range along a theoretical continuum from position one through position five. In practice, position one perspectives are not found (it was a hypothetical and conceptual extension of the model even in the original study), and thus the actual MID ratings will range from positions two through five. Individual ratings on the MID are represented by a 3-digit number which reflects the dominant and (if necessary) the subdominant position/s rated in the essay. This system extends the Perry scheme continuum from 4 steps--positions 2, 3, 4, and 5--to 10 steps: 222, 223, 233, 333, 334, 344, 444, 445, 455, & 555. Solid ratings (like 333) reflect a "stable position" perspective; the two steps between each stable position indicate transitional essays. As examples, 223 represents "dominant position 2 opening to position 3," while 233 indicates "dominant position 3 with trailing position 2." The ratings thus reflect an assessment of the cognitive complexity displayed by the essay

with respect to classroom learning along a linear, simple stage model continuum (see Jim Rest's 1979 book, **Judging Moral Issues**, for a thorough discussion of simple vs. complex cognitive stage model assumptions).

Given the complexity of the task, the recommended procedure for formal research projects with the **MID** is for each essay to be rated independently by two raters. These raters then discuss their ratings and reconcile consensus ratings. This process increases the reliability of the rating process, since individual raters can often miss or misinterpret important aspects of a given essay. Using two raters also helps to counteract any consistent rating patterns of a single rater. Under certain circumstances, for instance, with less formal rating projects, alternative procedures can be used--data rated only by a single rater, or the whole sample rated by one rater and a sub-sample (at least 25%) double-rated as a reliability check. In any case, scoring arrangements must be made beforehand with CSID. **MID** essays can only be rated by CSID, or CSID-approved, raters in order to insure an adequate level of quality control in the ratings. The **MID** rating charges are currently $3.00 per essay, or in the normal case of a double-rating process producing final reconciled ratings, $6.00 per essay. If an institution is committed to an extensive ongoing longitudinal assessment project, a rater-training workshop is available for $2500 (including preparation and follow-up) plus expenses. Generally, however, it is more cost-effective to have CSID score the essays.

Interpreting MID Ratings

Ratings are reported on a summary sheet that includes both the individual and reconciled ratings, along with a summary of any demographic data collected. **MID** rating summary sheets will normally include three ratings--the two individual raters' ratings and the final, or reconciled, rating. In some instances, there will be a third individual rating, which means that the two original raters could not agree on a reconciled rating; rather than flip a coin or fight it out, a third rater is consulted. We recommend that two figures be computed for inter-rater reliability: **absolute agreement** and **within 1/3 position agreement**. The former indicates the percentage of the sample on which the two raters produced identical initial ratings, the latter the percentage on which the raters' individual ratings were 1/3 position different (or less, meaning this figure includes cases in which there was absolute agreement). Our rater training standard for certification is 90% for the within 1/3 position agreement figure. For a further discussion of the current inter-rater reliability data available on the **MID**, see the complete instrument manual (Moore, 1987) available from CSID.

For reporting purposes, the **MID** ratings can be treated in either (or both) of two ways, as categorical data or as continuous data. Some statistical purists--often found on doctoral dissertation committees--insist that a measurement scale like that reflected by the **MID** can only be treated as categorical, but others, including some respected psychometricians, like Jum Nunnally (**Psychometric Theory**, McGraw-Hill, 1967), argue that such a strict

interpretation is too rigid and not meaningful in practical terms for psychological scales. (For a more in-depth discussion of this topic, see the MID instrument manual. Depending on the purpose and the audience of the research, the scores can be effectively used either way, and often are reported both ways for comparison purposes.

1) Grouping categories--
222 & 222(3) = Position 2444 & 444(5) = Position 4
223 & 233 = Transition 2/3445 & 455 = Transition 4/5
333 & 333(4) = Position 3 555 = Position 5
334 & 344 = Transition 3/4

Report the frequencies and percentages of students in each of the categories. These figures can then be converted to a histogram if desired, and in a longitudinal project, "profile shifts" to the right on this kind of chart indicate upward movement. For a good example of this kind of analysis, see Kirk Thompson's 1990 analysis of data from The Evergreen State College (available from the Perry Network).

2) Continuous data--
Convert the rating scores to numbers as follows:
222 & 222(3) = 2.0344 = 3.67
223 = 2.33444 & 444(5) = 4.0
233 = 2.67445 = 4.33
333 & 333(4) = 3.0455 = 4.67
334 = 3.33555 = 5.0
Once the ratings are converted to these numerical scores, they can then be manipulated statistically however you choose (mean, standard deviation, etc.)

"Glimpse" ratings (e.g., 333(4)--see the rating notes below for more details) can be treated numerically as a separate substage. In the case of 333(4), for instance, it could be scored as a "3.17" (half of 1/3 a position, in effect). Conceptually, I would argue that these essays are different from 333 essays and the latter approach is preferable; practically, unless your sample has a lot of these ratings, it probably doesn't make much difference.

Rating Summary Sheet Notes

MID rating summary sheets will normally include three ratings--the two individual raters' ratings and the final, or reconciled, rating. In some instances, there will be a third individual rating, which means that the two original raters could not agree on a reconciled rating; rather than flip a coin or fight it out, a third rater is consulted. We recommend that

two figures be computed for inter-rater reliability: absolute agreement and within 1/3 position agreement. The former indicates the percentage of the sample on which the two raters produced identical initial ratings, the latter the percentage on which the raters' individual ratings were 1/3 position different (or less, meaning this figure includes cases in which there was absolute agreement). Our rater training standard for certification is 90% for the within 1/3 position agreement figure. For a further discussion of the current inter-rater reliability data available on the **MID**, see the **MID** instrument manual, available from CSID.

The following are brief definitions of some of the notes/comments you may see on a **MID** rating summary sheet. For more information or clarification, please contact the Center.

* **BP**: BallPark rating; there is insufficient data, or insufficiently clear data, for us to provide a full research rating with confidence--but enough for us to approximate, or "ballpark," a rating. People use such ratings in different ways; with formal research (and an adequate sample!), you might want to exclude them from the analysis. For most informal research purposes, however, it is reasonable to include BP ratings. In converting these ratings to continuous data, treat them as a half-stage; a "BP 2/3," for example, would convert to a "2.5" score.

***Glimpse**: rater's notation that accompanies ratings like 333(4). Such a rating indicates that while the essay is seen as reflecting stable position 3, there is a hint, or "glimpse," of the next position (in this example, position 4) that is noted but not formally rated. For the time being, I would suggest that you treat 333(4) as equivalent to a 333; we are continuing our own research to see what, if anything, distinguishes such essays qualitatively from 333 or 334 essays. You may also see 222(3) or 444(5), but these are less common.

* **Unr**: Unratable; we do not think the data sample is adequate to provide any kind of rating. The reasons vary; sometimes students don't write the essay, sometimes they are simply too brief, and sometimes they either don't take the task seriously or they tangent in ways which make rating impossible. The percentage of Unratables in samples is usually only 1-5% at most.

***Flooded**: there seems to be a strong emotional tone taken in the essay--usually in glowing positive terms (a professor, most often, who obviously had a powerful personal influence on the person), but sometimes harsh and negative as well. Such emotional "flooding" tends to obscure the cognitive rating, so we note its occurrence as a possible caution in reviewing the rating. Flooding does not make the data automatically unratable, but it can make the essay rate as less complex than it might otherwise be.

***Early**: essentially the same notion as "Glimpse," but on the "other side" of the position; that is, a 333 (Early) means that the essay is seen as borderline between a 233 rating and

a full 333 rating. Again, this notation is more useful for our rating and criteria research than for anything else, at least at this point.

*__**2/4**__ or __**3/5**__ : indicates that one or both of the raters noted this essay is an example of a rating split problem--a problematic essay that can be interpreted, for example, in the case of a __**"2/4"**__ split, as being on __**either**__ the position 2 __**or**__ position 4 side of position 3. Conceptually, these splits result from the fact that there are close parallels between positions 2 and 4 and between positions 3 and 5 in the Perry scheme; practically, they give raters headaches! These essays are noted to allow us to go back to do closer analyses on these essays to help refine our rating criteria and decisions.

*__**__ or __**__ : simply means that we think the essay in question is quotable, unusual, or for some other reason worth noting. You can use these signs to pull out the best essays for writing a section on the richness of the essay data or for presenting quotes to faculty; we use them primarily for rater training efforts and our ongoing rating criteria refinements.

*+ or __-__ : found beside individual ratings (as opposed to the final reconciled ratings), these signs are simply a rater's indication that s/he sees an argument for more than one rating: the one noted and the next step above (+) or below (-) it. These notes help facilitate the reconciliation process, but should be ignored when computing inter-rater agreement percentages.

If you have any questions or need further information about the **MID**, please contact the Center.

Table 9
Measure of Intellectual Development: A Sampling of Longitudinal Studies

Institution	Sample	Duration	N	Pretest Mean	Posttest Mean	Percent Positive Change
Gardner-Webb Comm. College	Freshman Seminar	Semester	57	2.44	2.69	53
Seton Hill College	Freshman core	Semester	49	2.84	3.01	41
Old Dominion University	Freshman orientation course	Semester	77	2.70	2.85	48
Univ. of Maryland, College Park	Female education majors	Semester	57	2.72	2.91	54
Indiana University	Upper-div. & grad. biology	Semester	46	3.04	3.24	52
Anne Arundel Comm. College	2-yr. Students (trad.-aged)	Semester	19	2.67	2.77	32
Univ. of Maryland, College Park	Exp	Semester	X†-15 C†-16 H†-16	2.94 3.00 2.97	3.13 3.03 3.34	53 27 56
Memphis State University	Freshman career dev. class	Semester	90	2.59	2.79	45
Rutgers University	Freshmen	Semester	57	2.82	2.88	41
The Evergreen State College	Coor. Studies (four classes combined)	3 quarters	188	2.97	3.31	62
N. Seattle Comm. College	Coordinated Study	1 quarter	30	2.98	3.43	73
Seattle Central Comm. College	Coordinated Study	1 quarter	23	3.13	3.48	67
Seattle U. Matteo Ricci Program	High School seniors and SU freshmen	1 quarter	49	2.84	2.77	34

† X=experimental group C=control group H=honors group
Percentage of total sample showing + 1/3 position or more positive movement

English 111 Diagnostic Essay

Instructions: Please write your name, the date, your instructor's name, English 111 and section number, and your social security number on the cover of your bluebook, but do not write your name anywhere inside the bluebook. Put your social security number on the top of the first page of your essay as well. You may outline or make notes on the inside front or back covers of the bluebook. Please use blue or black ink.

Write a well-organized essay on one of the following topics. Be sure your essay has a clear thesis statement. Give special attention to paragraph organization and to concreteness of examples and detail. Length: about 500 words.

1. We all have places we go to relax and refresh our spirits from time to time. Describe such a place, showing through vivid detail, dialogue, and description why it appeals to you. Try to give the reader the impression of having actually been to this place and experiencing what makes it so restful.

2. In the wake of nationally publicized gang-related killings in high schools, many communities are making public school uniforms mandatory in hopes of reducing violence. Others, however, are opposed to this plan. Take a position on this controversial issue, being sure to explain your reasoning, offer credible arguments, and anticipate and refute the arguments of those who are opposed to your position.

3. The dictionary defines "patience" as "the capacity of calm endurance" or "the capability of bearing affliction with calmness." But clearly much more could be said on the subject. Explain the concept of patience, defining its universal characteristics and illustrating them with specific examples and details.

English 111 Exit Exam
December 12, 2000

Write a well-organized essay on one of the following topics. Be sure your essay has a title and clear thesis statement. Give special attention to paragraph organization and to concreteness of examples and detail. Length: about 500 words. Write your topic number on the front cover. Return this topic sheet. *Note: any essay which fails to address the prompt question will receive a failing grade; any essay which fails to follow the instructions indicated here or in the prompt will be seriously penalized.*

1. Profile a business that you don't enjoy patronizing but feel more or less forced to by your schedule and/or its convenient location. Create a dominant impression of the place and its personnel with vivid details to convey to the reader the rather unpleasant experience you have every time you go in.

2. Because we live in a wealthy society, most Americans are able to save enough money to take an occasional vacation. Yet in some poorer societies, where most people struggle just to feed their families, they do not even have a word for "vacation" and are unfamiliar with the concept. Imagine that you are visiting just such a culture, and have been asked to explain what a "vacation" is. Explain this concept, being sure to define your terms and offer meaningful, specific examples and details.

3. Though we know that it's important to learn the skill of writing under time constraints, some would argue that it is unfair to give students an "exit exam" which is written under time pressure, especially when they have spent the semester focussing on writing and revising as a process. Take a position on whether or not you feel that this English final is a fair and accurate reflection of what you learned in this course. Be sure to explain the controversy, support your position with specific arguments, and answer all significant counterarguments.

4. Each year, analysts publish lists of the best American cities and towns to live in. Evaluate your own hometown as a place to live. Be sure to set up your criteria for a good city or town and then evaluate yours, explaining in detail why it does or does not measure up to your criteria.

5. ACU has recently instituted the First Year Program to help new students adjust to the university environment. This program, which includes Passport, advising, Welcome Week, and University 100, has asked for your help in making it a better tool for students. Identify ONE SPECIFIC aspect of the First Year Program that you feel is not effective. Explain the problem, examine its causes, and propose a solution that would remedy the problem. Be sure to prove that your solution would be both effective and feasible.

Grading Standards for Exit Essay: English 111

8, 7 Excellent, Outstanding, Fluent, Thought-Provoking, Original
This paper is a superior and carefully organized response to the assigned topic, each paragraph having a controlling idea and excellent supporting detail, the style fluent and the content thought-provoking. There are few if any mechanical errors. The presentation shows thought and original insights by the writer, independent of the teacher and/or text.

6 Good, Above Average, Clear, Well-Organized
This paper is a good response to the assigned topic, in which each paragraph has a controlling idea that is adequately supported by detail. The sentences are clear and show some variety. Mechanical errors are not distracting to the reader. The writer has mastered the material presented by the text and the teacher.

5, 4 Average, Adequate, Competent, Fair, Unoriginal
This paper is an adequate, routine response to the assigned topic. A central idea is stated, perhaps too generally, but it is more or less held to and supported in token fashion. The style is moderately clear and the mechanics are reasonably competent. Errors in grammar, punctuation, usage, and organization do not seriously interfere with a reader's understanding of the paper.

3 Below Average, Inadequate, Ineffective, Unclear, Under-Developed
This paper is an inadequate response to the assigned topic, by virtue of significant mechanical errors that make the communication ineffective, weaknesses of word choice, insufficient support or understanding of the topic. There may be a stated controlling idea, but the relation of details to it is unclear.

2, 1 Failure, Blocked Communication, Plagiarism-Cheating, Major Errors, Illiteracy, Directions Not Followed, Badly Under-Developed
This paper is an altogether unacceptable response to the assigned topic whether by failure of the writing, the thought or both. The voice of the writer fails to appear because someone else's language was appropriated or because gross errors have blocked communication. A controlling idea is not stated or, if so, it is incoherent or undeveloped. Errors in diction may suggest illiteracy.

Email from Debbie Williams, Ph.D.

X-WebMail-UserID: wlmsdeb
Date: Fri, 13 Apr 2001 12:22:30 -0500
Sender: "Debbie J. Williams" <wlmsdeb@acu.edu>
From: "Debbie J. Williams" <wlmsdeb@acu.edu>
To: barnardm@acu.edu
X-EXP32-SerialNo: 00002222
Subject: first year, first time reflections
Mime-Version: 1.0

Whew!

That about sums it up. I had no idea when I took this on that my students would be so close when they came on the first day of class, and their relationships has caused me to re-think teaching strategies, especially those "active learning" strategies. This experience is, without a doubt, more challenging than teaching in the traditional classroom.

My thinking I could use learning teams and other active learning strategies didn't work because of the social connections they brought with them: the strategies designed to facilitate team development/interaction were no longer needed. I'm struggling with the role of active learning strategies, specifically learning teams, in the LC classroom.

This has been one of the more rewarding and frustrating methods of teaching. I definitely think cognitive development is increased; I want to be sure, though, that it increases in my students to the highest degree possible because of me, not in spite of me.

With anticipation of another chance,
deb

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Learning Community Student Qualitative Response Statements

The perspectives of students enrolled in learning community classes may assist the reader in understanding the perceived value of participation in this pedagogical reform effort. The following statements were selected from the post-assessment MID essay responses of students who participated in this study. Section 18 met Tuesdays and Thursdays, 11:45 a.m. to 1:05 p.m, and section 22 met Tuesdays and Thursdays, 3:00 to 4:20 p.m.

Section 18, Female Student Response:

Reflecting back on my first semester in college, I cannot imagine not being involved in the learning community. The learning community helped me immediately have a group of friends that I could talk to and study with. During Welcome Week we met our learning community and did daily activities with them to get to know them better. As classes started we automatically knew people in three of our classes (English, Bible, University Seminar). This helped me find a study group and friends that I could share my freshman anxiety with. They all knew what I was going through even to the point of teachers. Overall I liked the learning community. I met some lifelong friends. I encourage all entering freshmen to get involved in a program like this one.

Section 18, Male Student Response:

I thoroughly enjoyed the learning community and think that I learned and achieved more because of it. I liked having the same people in three of my classes. It was nice being able to use the same papers from one class for the other class, also. I developed some good strong friendships because of the learning

community. The classroom atmosphere was lighter than it would be in normal class settings. The teachers were very good and the teaching was very effective.

Section 18, Female Minority Student:

As a freshman at ACU, I feel there is much to say of what I had learned about myself and others in my learning community. What stood out the most of my experience were the teachers and their attitudes. They were a positive influence on most aspects and always showed their concern for their students. The teachers show clear knowledge of the subject and are always working towards the students' success.

Through this course program [the learning community] I have learned about who I am. I found that Christ is everywhere in everything I do. Maybe for me, it was just that time in my life, but this course program has been effective.

Section 18, Female Student Response:

Looking back on my experiences with my learning community, I have both positive and negative experiences. The learning community I was involved in gave me insight about college while being closely related to students with similar values, beliefs, and expectations. I enjoyed learning with a small group because I felt more comfortable, but that comfort also made it difficult to meet new people because we were closely involved with the learning community. The teachers of the learning community were great because they worked with each other to make the classes more productive and less stressful. Overall, the learning community I was in helped me to adjust to college life.

Section 18, Male Student Response:

This course has been amazing! I have never learned so much about writing in such a short amount of time. Our teacher dove into the content and showed us the basics of writing techniques. The class atmosphere was very inviting and open because we all knew each other. In class each student opened up and shared their feelings, everyone had an important role in the class and contributed to the learning experience. This class has taught me that I am a hands-on learner. Overall, this course has been very beneficial to my English learning experience.

Section 18, Female International Student:

I had good experiences in the learning community program. It was a way that I got involved in so many things at ACU, and also improved my knowledge.

The professors showed that they were capable of teaching the subject and in a way that was attractive to me, creating a very good atmosphere in the classroom. They tried to have students interact in ways such as having class discussions and free times for opinion.

Not only was the class important in curriculum, and helping me with daily tasks, but also to meet new people. It was a good way to become closer to other freshmen.

The procedures used to learn was [sic] very effective and attractive. About myself, I learned to respect other people's opinion, and how to have good time management while learning about writing skills, and applying Jesus' teaching in my life.

Section 18, Female Student Response:

Through my experiences in the learning community this past semester, I have learned a lot about myself. Since with the learning community we have three classes with all the same classmates, we all got to know each other quite well. This especially helped me because since [sic] I was familiar with everyone I was not afraid to open up in class and become a part of the class discussions. I also tended to form study groups in my spare time for exams for these classes more often since we all knew each other so well. Because of the learning community I was able to form some close bonds and friendships that I might not have if I was not involved in this situation.

Section 22, Male Student Response:

The learning community was an effective way for students to learn, because each student has the same instructor for each class and feels more comfortable studying with one another. The atmosphere in each class is friendly and relaxing which makes for a better learning environment. The teachers provide the students with a broader curriculum because they can work together to accomplish more things in different classes. I have learned that in a comfortable environment with people I know, which is what the learning community creates, I learn better.

Section 22, Female Minority Student Response:

I would have to say that as an entering freshman, I was very worried about making friends. The idea of having a learning community was somewhat comforting. Walking into class the first day, I was somewhat uncomfortable.

Never, in my life, had I been in a classroom in which I was a minority. I came from a predominately [H]ispanic community, so being in a room in which I was "different" was a bit intimidating.

It only took a few class periods to realize that I had much in common with many of the students. The atmosphere in the classroom turned from intimidating to comfortable. Being able to have a group of people with whom I have other classes was very comforting. In a university where I am a minority, it was great having a group of friends I know I will see and talk to practically every day. To have a learning community in which the atmosphere was very comforting and easy-going was an awesome experience.

Section 22, Female Student Response:

Being in a learning community helped me out tremendously to make it through my first freshman semester at college. It was very helpful to be in a class with so many of my friends.

I really enjoyed being in a learning community. It was a great experience. My English class was very fulfilling. My English teacher was an excellent teacher. She helped me personally to be able to have fun, but I also learned a lot. Having the opportunity to be in classes with so many of my friends was an amazing experience. I really learned better knowing that so many of my friends were learning the same things that I was. The study opportunities are great because you have people to study for tests with. It enhanced my academic success in my classes because of the learning opportunity that it provides.

Overall, the learning community was a very positive experience. I really enjoyed it a lot. I am glad that I had the opportunity to participate in it.

Section 22, Male Student Response:

I thought that having a learning community where I had three classes with the same students was very helpful. I am not the best student in the world but getting to know these friends they really helped me to get my work done. It was also a great opportunity to make friends faster than I normally would being a freshman in college. I highly recommend keeping the learning community at ACU.

Section 22, Female Student Response:

After looking at the syllabus for this class, I was actually pretty overwhelmed at the requirements and amount of writing we'd have to do. However, since I was in the learning community I felt really comfortable with my classmates and the classroom situation was more enjoyable. My professor really helped to improve each of us as writers through a gradual [sic]. The writing concept wasn't something we picked up after one or two papers, but it was a continual learning process. I would strive for one specific goal for each paper and concentrate on that until it was conquered. Each paper helped me to become a better writer in several different aspects. Our papers were returned to us after it was [sic] graded and we had to review it and make corrections on specific problems, such as grammar, transitions, or subject / verb agreement. I really enjoyed this class and the fact that I really knew my classmates.

Section 22, Female Student Response:

As a student that was home schooled up until college, I was unsure what to expect from the college courses, especially English. I didn't know how helpful or focused on the students that the teacher would be. After completing my first English course, I was very impressed. The class that I was involved with was great.

Going into the class, I had a few writing problems that stuck out and knocked points off of my grade, but through repeated one on one discussions with my teacher, I eventually overcame my struggles. My teacher has been more helpful and more understanding than I thought possible. I have been very impressed and have enjoyed this class very much and I actually feel that I have learned something.

The class itself was a really good experience. I am a generally shy person, but I felt comfortable speaking up in class to make comments and ask questions. I felt that my teacher genuinely cared about me and how much I learned and that helped me to remain focused and motivated throughout the entire semester.

Section 22, Female Student Response:

Being involved in a learning community my first semester helped me to adjust well to the college experience. Having three classes with common people allowed me to connect with my classmates and feel more comfortable in the classroom atmosphere, sharing and asking more questions. Along with this, the teachers connected the different subjects together for us. It was interesting to see how Bible, English, and University Seminar connected. Through the learning

community I was blessed to be introduced to caring teachers, good friends, and a comfortable learning environment.

Text for The Journey, ACU's Brochure for Entering Freshmen:

Learning Communities Copy:

Freshmen and transfer students with fewer than 22 hours have the opportunity to join a Learning Community. A Learning Community consists of your University Seminar class and a set of two-to-three thematically linked courses, which you take with your University Seminar classmates. This is a great way to make close friends and study partners.

Joining a Learning Community is easy. Review the following descriptions and note which Learning Communities interest you. On the Passport registration form, indicate the Learning Community you want to join. The following majors require that you join a Learning Community: Bible, music and theatre. Art, journalism and mass communication, interior design, and pre-health majors are encouraged to register for the Learning Communities associated with these majors. Undeclared students interested in art, journalism and mass communication, interior design, music, pre-health, or theatre are welcome to register for the Learning Community associated with these majors. **Please note that space is limited in ACU's Learning Communities, so send in your registration form as soon as possible.**

NOTE: If you change your major before Passport and need to be placed into or out of a Learning Community, please contact the First-Year Program Office at 915-674-2212 or fyp@acu.edu.

IdLC (IDENTITY LEARNING COMMUNITY)

Experts agree that one of the chief tasks of college students is to learn more about themselves, their values and goals, so that they can make informed decisions about the future. With this in mind, the professors who facilitate the "IdLC" are interested in helping students make the necessary connections during this critical transitional time so that their first semester is successful in every way--academically, socially, and spiritually.

UNIV 100	University Seminar
ENGL 111	Composition and Rhetoric
BIBL 101	Life and Teachings of Jesus

These courses meet core requirements for all students; a pre-requisite ACT English score of 20 or higher or an SAT verbal score of 550 or higher is required.

ACU's Homepage: Learning communities enhance education experience at ACU

For Immediate Release
May 23, 2000

Contact:
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As student retention becomes a major concern for colleges and universities nationwide, Abilene Christian University is reforming the way it introduces new students to college academic and social life through the use of learning communities.

A learning community is composed of two or three classes grouped around a common theme. While the course content will not be parallel for the entire semester, the teachers of these courses will work together to help students recognize and understand how the knowledge gained in each course relates to the learning that is going on in the other courses.

Most learning communities are designed for students who are new to ACU, so they provide an additional incentive of allowing students to get to know one another through the courses they have in common, creating a social community as well as an academic one. Several of the communities include a Bible course in their topical curriculum to allow faculty to help fulfill the university's mission of educating students for Christian service and leadership throughout the world.

"Many of them include inside- and outside-of-class experiences," said Mark Davis, dean of the first-year program. "Part of the concept behind learning communities is students not only learn together but they also socially bond together."

Currently 15 ACU learning communities exist covering eight different headings, ranging in topic from "Words, Images and Power," which combines the diverse fields of art, journalism and government, to "Health Science Though the Eyes of Faith," which incorporates biology and chemistry courses and is directed at students interested in pre-health fields.

The "Identity Learning Community," or IdLC, integrates the unique academic, social and spiritual needs of entering freshmen who are in a critical period of transition. The classes in this community are part of every student's

university core and aim to help new students learn more about themselves and their values and goals so they can make informed decisions about the future.

Learning communities are not a new idea, but they are being implemented in greater numbers across the nation because of their positive effects on student morale and retention rates. Iowa State University, where learning communities have been in place for several years, has seen a jump in retention from 45 to 90 percent since the fall of 1998.

According to an article in the 1998 issue of "About Campus" magazine, students who are involved with the people and activities of learning communities are significantly more likely than their less involved peers to show growth in intellectual interests and values, and apparently more likely to get more out of their college education.

Dr. Vincent Tinto, who visited the ACU campus in January at Davis' request, and Pat Russo at Seattle Central Community College found that students in Iowa State's Coordinated Studies Program reported greater involvement in a range of academic and social activities and greater developmental gains than students in the regular curriculum. The same students also had more positive views of the college, its activities and its people, and they persisted at a higher rate than students in the standard program.

Similar results are beginning to appear after just two years of ACU's learning community program. Results of a study completed jointly by the learning communities advisory committee and the Department of Psychology show that more than 90 percent of students said their learning community experience was a positive one, and 75 percent said they would participate in one again.

Social interaction increased, and students felt an increased sense of comfort expressing themselves in class. Overall, students reported having an increased sense of confidence and ability to adjust to a university setting as a result of their learning community experience.

Mimi Barnard, instructor of English, will facilitate the IdLC learning community for the third time this fall. She believes in this educational approach for a number of reasons.

"Over and over again, studies have shown the benefits of learning communities. Students develop a stronger sense of belonging and are able to make connections to a stable cohort of peers and faculty. Friendships that begin in the classroom spill over into the cafeteria, residence halls, etc.

"And because students are taking the same classes with the same teachers, they begin to study together. Accountability develops among them -

they are concerned for each other academically, socially and spiritually. Of course, ACU is a place where this sort of thing happens often, but with learning communities, it is purposeful.

"The professors who teach in the IdLC learning community understand the unique concerns regarding the transition to the university setting, leaving home for the first time, making decisions about a major, refining and owning values, etc. I'm thrilled that ACU is offering so many different learning communities this year, and I hope to see this program grow in the future."

When Cherese Archie began classes last fall, she was the only student from her high school at ACU. She said being in the "Words, Images and Power" learning community helped her adjust to college life.

"If you have different people in every class, it's hard to work up the nerve to talk to them," said Cherese, freshman photojournalism major from Wichita Falls. "I didn't know anybody. I made quite a few friends through my learning community."

Although no assignments were connected between classes in Cherese's community, she said the teachers connected the material they covered.

“One teacher gave examples connected to the other," she said. "They tried to talk about the same topics at the same time. They were always communicating."

In the future, Davis said the university is looking into increasing the bond between learning communities and residential life. Residence halls may be modified to include more classroom and group study space, and new residence halls will be built in the future with learning communities in mind.

Archived News Releases - Current ACU News and Events

If you are a member of the media who would like more information about this release, please contact Tom Craig, director of media and community relations, at craigt@acu.edu or call 915-674-2692 (cell phone: 665-5469).

Last update: May 23, 2000
This page is maintained by Tom Craig, craigt@acu.edu.
http://www.acu.edu/events/news/000523-learncomm.html

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